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Contents

The Prospects of European Agriculture and Their Implications for the United States ..... *Karl Brandt* 601
Cartels, Combinations and the Public Interest ..... *F. B. Garver* 613
Contribution of Price Policy to the Income and Resource Problems in Agriculture .... *D. Gale Johnson* 631
Public Works on Private Land ..... *V. Webster Johnson and John F. Timmons* 665
How Long Does It Take to Pay for a Farm Starting with Heavy Debts? ..... *George A. Pond and William L. Cavert* 685
Need for a New Classification of Farms ..... *M. R. Benedict, F. F. Elliott, H. R. Tolley and Conrad Taeuber* 694
The Demand for Agricultural Commodities in the Period of Transition from War to Peace ..... *John B. Canning* 709
Agricultural Prices Following World War II ..... *Oris V. Wells* 725
Some Factors Affecting the Rate of Retirement of Farms in the Submarginal Land Area of Ohio .... *J. H. Sitterley* 737
Dr. Nourse on Low-Price Policy: A Review ..... *William H. Nicholls* 754
Addendum: From Analysis to Prediction ..... *Edwin G. Nourse* 766

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Volume XXVI NOVEMBER, 1944 Number 4

NOTES

Some Defects in the Analysis of Farm Management Data. . . . . *G. W. Forster* 775

Computation and Use of Output Units in Farm Business Analysis. . . . . *L. S. Hardin* 779

Food Consumption Programs as a Part of a Farm Program. . . . . *Frederick V. Waugh* 784

Adjustments in Western Beef Cattle Production and Marketing During the War and Post-War Periods. . . . . *Mont H. Saunderson* 789

The Importance of Storage Costs in Accumulating Food Stocks. . . . . *F. A. Harper* 794

Ceiling over Ceiling Pricing. . . . . *David L. MacFarlane* 800

REVIEWS

The Economics of Control: Principles of Welfare Economics by Abba P. Lerner. . . . . *John Ise* 804

Management in Russian Industry and Agriculture by Gergory Bienstock, Solomon M. Schwarz, and Aaron Yugow. . . . . *Walter W. Wilcox* 805

Production, Jobs and Taxes by Harold M. Groves. . . . . *Edward D. Allen* 808

The Field Seed Industry in the United States by Victor Franck Beck. . . . . *George Montgomery* 811

Public Spending and Postwar Economic Policy by Sherwood M. Fine. . . . . *W. E. Grimes* 812

Winter Wheat in the Golden Belt of Kansas by James C. Malin. . . . . *J. A. Hodges* 814

Curbing Inflation Through Taxation. . . . . *Fred A. Clarenbach* 816

Pan American Economics by P. R. Olson and C. A. Hickman. . . . . *Seymour E. Harris* 818

Studies in Income and Wealth, Vol. VI. . . . . *H. R. Wellman* 820

Taxation to Prevent Inflation by Carl Shoup, Milton Friedman, Ruth P. Mack. . . . . *E. Gordon Keith* 823

PUBLICATIONS RECEIVED. 825

HONOR ROLL. 826

NEWS ITEMS. 827

INDEX TO VOLUME XXVI. 831

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THE PROSPECTS OF EUROPEAN AGRICULTURE AND THEIR IMPLICATIONS FOR THE UNITED STATES*

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THE future of European agriculture is now, in this fifth summer of World War II, just as uncertain as is the entire political and economic fate of Europe. The more we approach the end of the European war, the less we know what the victorious Allies will decide about the boundaries of the Continental nations, their status of sovereignty or dependence, and their position within the international organization which may take the place of the League of Nations.

Will Europe be reconstructed more or less as it existed before this war with most of the nations confined to their pre-Munich boundaries, with the only difference that Germany and Italy will be stripped of military power and perhaps reduced territorially? If so, will Russia stay outside and be interested in Europe only to the extent of being protected against a possible repetition of aggression from the west? Will Europe be reorganized as several larger and independent regional federations? Or will Russia extend her influence beyond her prewar boundaries, deep into central Europe, and encompass either all of Germany or its eastern half, the three Baltic States, Poland, and perhaps Hungary, Rumania, and Bulgaria as separate Soviet republics, or place them in the status of protectorates of Soviet Russia? Will there be a solid ring of denpedent Russian buffer states from the Baltic to the Black Sea, leaving only a northern and western rim of European states as the remnants of an autonomous Europe?

* Presidential address delivered before the Western Farm Economics Association conference on "Agriculture in Transition from War to Peace," held at Los Gatos, California, on June 27, 1944.

These are but a few of the pertinent political questions about Europe's future which we must ask in order to find a basis for discussing the prospects of European agriculture. Most of the possibilities of political arrangements in store for the "Old Continent" may be condensed into the formulation of one problem which overshadows all the others: What will be the future relations between the United States and Great Britain on the one hand and Soviet Russia on the other; and how far are the two powers determined to go in giving Russia a free hand in Europe?

It was only five years ago that Prime Minister Churchill called Russia's foreign policy "a riddle wrapped in a mystery inside an enigma." Field Marshal Smuts, in his famous speech, described Russia as the "new colossus that bestrides this Continent [of Europe]" and suggested that Britain integrate the smaller western nations of Europe as member states in the British Empire. This speech was based on the acknowledgment of the rising power of the Soviet Union as a growing Continental empire, and on the conclusion that Great Britain will emerge from the war substantially weakened.

We do not yet know how the military campaigns of this war will wind up in Europe, nor can we assume that the United States and Great Britain are bound to solve the final organization of central and eastern Europe entirely in harmony with the desires of their great Russian ally. If this should be the course of events, and Germany's resources in industrial skills, research, and management be utilized primarily for the reconstruction of Russia's devastated areas, and not for the reconstruction of Germany and the western neighboring areas, the auspices for the revival of the Continent and its reintegration into the exchange economy of the world would be most radically altered.

These vague preliminary observations may be useful to indicate that he who wishes to speculate about the future of Europe's agriculture must take into his field of vision a far greater range of potential developments than simply the continuation of some of the earlier trends. It is not at all impossible that very drastic structural changes may occur in the political and economic environment in which the reconstruction of agriculture will take place and that in their wake the basic institutions in agriculture, such as property in land, tenure in general, and the distribution of land would be forcefully changed as well.

If we look back over the major drift of events in European agriculture from 1914 up to this year of war 1944, some major transitions and trends are conspicuous.

Within two generations, up to World War I, continental Europe had gradually fallen back as the great food and wool exporter to England. The new agricultural countries overseas took the lead, as suppliers of England. In the course of her own industrialization the Continent soon became the second largest food importing area of the world, standing next to the United Kingdom. Except in the Mediterranean countries and those of the east and southeast, European agriculture had not only been intensified to a remarkable degree, but it had made its adjustments to the rising purchasing power of the rapidly growing population and the declining rates of ocean shipping. An ever-increasing animal production led to the utilization of more and more land for fodder crops, which in turn were supplemented by cheap carbohydrate and protein feed concentrates from overseas. The countries with the most intensive agriculture received a large volume of overseas nitrogen and phosphate fertilizers.

Thus, when World War I broke, 44 years after one of the longest periods of peace and stability in modern history, Europe's agriculture was closely knit into the fabric of the world's ocean-going trade. Yet, it showed a remarkable increase in crop yields and total food output, and it still had large reserves in productive capacity.

The strategy of World War I consisted of the full use of economic warfare. Naval blockade against the Central Powers, and their counter-blockade against the British Isles were effective enough to create serious conditions on both sides, temporarily, and in Germany and Austria in the decisive stage of the war. While the final issue was determined not by economic warfare but by military action, the effects of the blockade indirectly contributed their fair share to the victory of the Allies.

Agriculture in World War I witnessed the first attempts at national planning and controling of agricultural production and food distribution ever undertaken anywhere. The war even initiated the first attempts at international planning of food supplies. Whatever planning was undertaken on food and agriculture was, by necessity, haphazard. The governments were forced into planning by a sudden unanticipated emergency. All the military authorities had been convinced that the war could not last more than three or four

months because of the expected dreadful effectiveness of new firearms and explosives. With no previous experience and no coherent knowledge about the economic and administrative problems of planning available, and no preparations made, all the planned action, in the United States, Great Britain, and in Germany and Austria, was an affair of trial and error with emphasis on the latter.

After World War I, all nations wished to return to the normal conditions of a self-regulating competitive civilian economy, and abolished the planning measures—those applied to production and trade as well as food rationing. Competition and freely moving prices were the desire of farmers and consumers everywhere.

When the world-wide decline of agricultural prices began in 1927 and 1928, farmers changed their minds and called for governmental support against the disastrous effects of price deflation, the more vigorously as the industrial economy shrank. When peace rapidly faded out after Munich, Europe's agriculture was again, as before 1914, closely connected with the world by ocean-borne foreign trade, in spite of a host of ingenious and elaborate barricades erected against the free exchange of goods in nearly all countries; and in spite of frantic efforts made by many importing countries to achieve food autarchy. These policies were inspired partly by the fear of another world-wide conflagration and food blockade, partly by considerations of military preparedness, but to a greater extent by the necessity to maintain a favorable balance of payments in foreign trade, in view of the unwillingness of the largest creditor country to receive payment of interest and principal in goods.

The chief difference between the sudden emergency created in 1939 and in 1914 lay in the ability of governments, acquired in the interval, to cope with economic emergencies by means of central controls. Ten years of nation-wide experimentation, a most respectable amount of economic research on problems of planning, international pooling of knowledge, ten years of training a vast civil service for the job of what the French so aptly call the "économie dirigée" had led to the accumulation of enough experience to elevate planning far beyond its trial stage in World War I.

When World War II was launched, economic warfare had been prepared long in advance. Total planning had nowhere reached a similar perfection, and the scientific penetration of the economic problems involved in total planning had nowhere reached a point of greater sophistication, than in Germany. Agriculture, and the

entire food economy, had been reorganized there from 1933 to 1939 in a comprehensive national cartel with a very effective steering and control mechanism, the chief tool of which consisted of a system of "forward prices" for agricultural products and agricultural production goods. Planned economy in the food realm had overcome all the most complex difficulties that the democratic nations are still struggling with. Germany could do that because political tyranny had given absolute power to the executive branch of the government, and had eliminated the possibility of resistance or even the expression of preferences on the part of the people.

While Germany built this system in exactly the time that the United States developed agricultural planning—from 1928 to 1938—other European countries were also learning how to solve their agricultural problems by planning. Outstanding among them were Holland, Denmark, Switzerland, and Sweden.

When Germany launched her attack on Poland, her general staff had not only taken care of the scientific preparation of a thorough food rationing system which operates with amazing precision, but had also prepared for the full utilization of the agricultural resources of the Continent. When the sea lanes were cut off, Continental agriculture was not only occupied, but all its resources were subjected to central planning and control. With many modifications, the German planning for agriculture was applied to most of the countries around her. Chiefly, this system consists of avoiding direct interference with agricultural production on the farm, although production goals are supplemented by delivery quotas. The main control machinery everywhere lies in the central steering of prices at every stage from producer down to the last consumer. The farmers of Europe have found themselves surrounded by a system which has altogether eliminated the risk of falling prices, that has given price security and profitability for at least a year, but practically in all cases for several years in advance, and has to a large extent eliminated or controlled competition. The markets and the utilization of farm products have been subjected to public controls. In many countries bootlegging and black market operations have punctured the system and reduced its effectiveness. In the same countries the civil service has not developed the necessary professional competence and skill which is required if planned economy is to function.

Nevertheless, we must recognize the fact that during the last

five years, even in the remote corners of Europe, agriculture has experienced the actual operation of public planning in its markets. This tends to accelerate adjustments to new situations and to alter or break economic trends under the impact of effective national policies. In some of the countries, primarily in Germany, the number of wholesale and retail enterprises and people employed in the food trade has been most radically shrunk and the dealer's margin has been telescoped—something which has always been one of the main claims of farmers in every country, because rationalization of the trade gives the farmer a higher share in the consumer price.

Planning has also been applied to the distribution and consumption of food among different groups of consumers, with a view to establishing a floor under the nutrition for the most vulnerable groups. The public distribution of vitamin concentrates among expectant and nursing mothers, children, and coal miners, and the fortification of flour with vitamins and minerals and of margarine with vitamins has become an ordinary procedure. Canteen or "in-plant" feeding of workers has been widely introduced. The complete devastation of cities of hundreds of thousands, and in some cases several million inhabitants has made the most elaborate public organization of food distribution and emergency feeding inevitable.

In their aggregate all these new developments amount to a distinct institutional and structural change, which will in some form carry into the future peace. It may be taken for granted that the farmers in all countries are going to want more political freedom, fewer secret policemen and fewer informers lurking in every corner. At the same time we may safely anticipate that Europe's farmers will want to combine with more political liberty the maintenance of price security, restraints to competition, and the assurance of their priority right in the European market. In England and on the Continent the war has brought about a situation for agriculture which can be defined only as prosperity. The curtailment or absence of overseas supplies and the coordination of the entire conquered Continent into one market area have for five long years banished peacetime worries over surpluses and restrictions upon production. In fact, the situation on the Continent is in this respect very similar to that in the United States.

So far, Europe's agriculture is in an amazingly good condition. Its primary production of food, oil, and fodder crops in 1943 was higher than in prewar years and will probably be as great or greater

in 1944. It is the secondary production of animals and animal products that has declined. The limited destruction of 1939 and 1940 was for the most part repaired by 1943. From 1942 on, even the livestock herd began to recover. In Norway, Finland, Holland, Switzerland, and Slovakia, land reclamation made remarkable progress.

The greatest benefit from the war has fallen to agriculture in the Danubian Basin. Hungary, Rumania, and Bulgaria have enjoyed better export markets for their grain, livestock, oilseeds, tobacco, and fruit pulp than ever before in central and western Europe. This condition has led to the acceleration of technological progress on farms. Better machinery, including tractors, better seeds, better breeding sires have been introduced on a large scale into the southeastern countries in spite of the difficulties in supply caused by the war.

In recent years most of the European countries have adopted four, five, or ten-year plans for heavy investments in agriculture, and elaborate programs for lifting production skills and techniques to a higher plane. The shortage of industrial materials and fertilizer has for the time being set narrow limits to the execution of these national plans, but all governments speak confidently of speeding up the execution of their plans when the war has ended. If the German army were to surrender soon, and if effective military government or its civilian successors were to establish a new order without leaving leeway for an interregnum of chaos, the scene would, indeed, be set for an early and substantial increase in production.

If the Continent should be forced to get along without or with little overseas imports of food and fibers, it could do so by maintaining the consumption and utilization controls. This would involve the need for keeping the output of hogs, eggs, and poultry at the reduced wartime level. However, an improved supply of skilled agricultural labor and management, machinery and tools, fertilizer, and good seeds, in combination with the maintenance of favorable forward prices and high production goals would also tend to boost domestic production.

The demonstrated ability of the Continent to get along for many years with very little overseas food and feed is significant for the potential developments during the future peace.

All that has been said about the present favorable conditions of

agriculture in Europe does not imply, naturally, that this situation will exist when the era of peace begins.

So far the invasion has wrested from the conqueror only an inconsequential area of Italy, and an even much smaller area of France, but in those areas the destruction of villages and farms has been severe. If the victory cannot be won by sweeping thrusts of mechanized force in the fashion of a Blitzkrieg in reverse, and if every country and every province must be seized by slow-moving artillery and infantry assaults, with ever-heavier bombing of all transportation facilities, it is conceivable that truly scorched earth will stretch endlessly between devastated towns and cities. How large a segment of Europe's agricultural production capacity would be lying idle at any one time would still depend on the degree of reconstruction that can be accomplished in the liberated areas while the war is still going on.

But suppose bombing should paralyze the transportation system in Europe to such an extent that the German armies were forced to surrender before such large-scale devastation took place. This would still not mean that peace and reconstruction would necessarily begin with the full equity in agriculture that exists today.

The still greater menace to European agriculture, overshadowing that of the final phase of hostilities, lies in the possibility of revolutions. Agriculture has been kept on a high level so far because it has operated within a system of order and rigid discipline. Once this effective system of government has collapsed, and to the extent that it is not instantaneously replaced by another one—military or otherwise—revolution and civil strife and disorder in any form will almost certainly break loose. If cities are cut off from food supplies, rioting urban masses will descend upon the countryside and plunder, burn, and kill. Nothing is more deadly to intensive, high-yielding, and complex farming than chaos like that. If this worst of all plagues should visit the Continent, mass starvation would be almost inevitable, and agricultural production would shrink for a long time.

Yet even in view of these two possibilities for a drastic curtailment of agricultural production—those of destructive warfare from now on and of the aftermath of civil war and revolution, it is still axiomatic that the key to the entire question of the future of European agriculture will lie in industries and trade. Whether Europe will again become an important market for exports of

American farm products will also be determined essentially by what happens to the industries on the Continent.

How much and how good a quality of food and fibers the Continent can afford to consume will be decided by the rate and nature of industrial employment. It is true that the wrecking of cities, railroads, bridges, and industrial plants creates an exceptional opportunity for a big reconstruction boom and constitutes a backlog of orders much greater than in the United States. But such a boom will be accompanied by a high level of consumption only insofar as a sizeable portion of the capital for it can be obtained from the capital surplus areas in the world.

If such a transfusion of foreign capital cannot be managed, the necessary capital must be formed on the Continent itself. The only possible procedure for the creation of capital at an accelerated pace consists of the postponement of consumption. At the same time reconstruction will be slowed down and retarded. Rationing of food and most consumers' goods combined with heavy taxes would be the visible forms of construction policies. Imports of all non-essential consumers' goods would have to be throttled to the utmost, and exports would have to be forced. If tariffs and excise taxes and bounties were to be prohibited by foreign political dictate or pressure, the inflation of currencies would be employed as the alternative measure to force the economy into line with the needs of reconstruction on domestic capital.

Such a situation would also lead to a powerful continuation of food autarchy policies, because more agricultural employment can be attained with relatively small amounts of additional capital, and because increased food and fiber production at home saves foreign exchange which, under such circumstances, is always scarce.

The foreign economic policy of Great Britain, the Empire, and the United States will determine the course of Europe's nations in their economic policies at home and abroad. The economic isolationism of the United States—the traditional high tariffs plus the more recent denial of long-term loans to other nations—will weaken Europe's ability to absorb even essential agricultural raw materials from the outside and will inevitably drive its importing countries into stronger food autarchy. The major residual import needs of the Continent would consist of coffee, tea, some oilseeds, and perhaps some cotton.

If, on the other hand, the Continent should not only be enabled

to reconstruct its industries, public utilities, and housing, but engage itself beyond that in gradual industrialization of predominantly its agricultural areas in the east and southeast, it is conceivable that the requirements for agricultural imports could vastly exceed the prewar level, and would for decades continue to rise. An expansive economy on the Continent would essentially lead to the same conditions which have come about in the United States during the war boom, where the government has not only admitted food imports, but has actually searched for them, and where the farmers have asked the government to import feed—including even meat scrap from Argentina, and have not complained about food imports of highly competitive commodities.

If Europe's economy can expand, industrial exports and imports of food, feed, and fibers would soar and the resistance against accepting heavy imports would have no serious domestic repercussions. Agriculture would concentrate on producing more food with the highest unit value. It would increase animal production, reduce or eliminate oil crops. Europe would import high-quality breadgrain, oilseeds, high-grade fruits, tobacco, cotton, wool, sisal, and other fibers. A rising purchasing power of the European masses would perhaps open even a demand for many more overseas export products.

The key to the creation of such a favorable development of Europe, which would result from a strong development of freer world trade, lies in the hands of the United States. *We are the world's greatest creditor nation, and the greatest industrial power.* A shortsighted foreign economic policy in the United States dictated by a greedy economic nationalism of the vested interest groups will create a situation of economic stagnation at home and spell gloom and poverty abroad. Mass unemployment and severe depression for long periods are the ideal growing conditions for more adventures in military aggression.

Let us suppose, however, that America will choose some more enlightened course than was pursued in the thirties and thereby do its part to make possible the economic prosperity of Europe. Even then it would not necessarily follow that the American farmer would have the opportunity to supply the import needs of Europe.

If world trade is to operate under the principle of comparative advantage, the price and the quality will decide which nation buys where and how much of what. To export farm products in large

volume to Europe would require that American prices be on a competitive level with those in other countries. The present support price policy guided by the untenable parity formula jeopardizes the possibility of any exports. Export subsidies and other ways of dumping are hostile acts against other nations which undermine the foundations of peaceful economic relations with them. There remains the possibility of organizing international trade by international commodity agreements or similar monopolistic international arrangements. They all lead to the introduction of trade by quota instead of competition in price and quality. These methods are possible and may even be expedient from the standpoint of some high-price exporting countries. That they are at the same time not in theory but definitely in practice incompatible with the principle of equality of access to raw materials and equally incompatible with the aim of an expansive world economy, seems beyond dispute. While international commodity agreements may serve the purpose of opening some quotas for American farm exports to Continental Europe, particularly of cotton, tobacco, rice, fruits, and perhaps even some lard and dry milk, their higher price will also tend to stimulate European production of such commodities, and the importation from countries other than the United States.

In the British Isles crop production has been substantially increased while animal feeding has been reduced. In the future it seems likely that with an almost stable population Great Britain will retain some of the increased production, but in the main return to heavy utilization of imported feed, and to the importation of a large part of her food requirements. The English market will, however, be reserved more and more to the agricultural exporting member states of the Empire unless the United States were to open its borders wide to British industrial goods.

According to the best estimates, the population on the Continent will probably increase in the next fifteen years: in the area excluding prewar Russia from 406 million in 1944 to 421 million in 1960—or by 15 million people; and in European Russia from 150 million in 1944 to 183 million—or by 33 million. An increase of the non-Russian population by 15 million people adds only a relatively small requirement of food, especially since the main population increase lies in the poor countries in the Mediterranean and eastern areas.

In conclusion it may be said that if Europe should be politically restored along traditional lines, agriculture on the Continent will

most probably return to its former position of a net exporter of animal fats. It will continue to increase its output in food and feed, and that the extent to which additional imports are purchased in overseas areas will depend on the foreign trade and foreign lending policies of the United States. The American farmer will be able to export to Europe in substantial volume only if the United States were to adopt a bold and cooperative policy toward Europe—something that is not impossible, but not too probable.

If Europe in its central and eastern part should be politically and economically integrated into the orbit of Russia, such profound changes in agriculture and the entire economy of a large part of Europe would be likely to occur that their scope discourages any speculation on my part.

CARTELS, COMBINATIONS AND THE PUBLIC INTEREST

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THE current denunciation of international cartels by the Attorney General's staff and by other government officials who, according to press reports, have said that the German cartels were a weapon of economic warfare which might well endanger peace settlements, has raised in the minds of many the question whether cartels are entirely and always a Machiavellian device for the exploitation of the public and a weapon of economic warfare.

The position taken by the former Assistant Attorney General, Mr. Arnold, against these combinations was carried to such extremes that a semi-humorous commentator remarked that he had led the public to believe that a cartel was some new esoteric form of social disease.[1] The fact is that, aside from the foreign name, there is nothing new in this country in this type of business organization. Nor is it always abhorred by liberals and reformers. One of the greatest cartels that has as yet been organized is the AAA, which had as one of its sponsors Vice President Wallace. To be sure, this is a government-fostered and administered arrangement, not wholly unlike the German potash cartel as it existed before 1914.

The word "Cartel" or "Kartell" was probably first applied to what in this country would have been called an Association, or Pool by the Germans in the last half of the 19th Century. The great combination movement, which began in the United States about 1860 among railroads, and was soon extended to petroleum products, steel rails, meat and whisky, had its contemporary counterpart among the industrial nations of Europe. Levy has shown, however, that a fully developed cartel was organized in the coal mining business in England in the latter part of the eighteenth century and that it persisted for more than three decades into the next century.[2] It is, of course, not plausible that this type of organization is one of the original and special devices invented by the Nazis for the subjugation of the world. It was developed in England and in the United States before the ad[illegible] of the German Empire and was

[1] Quoted from *Fortune*, Sept. 1942 by Ervin Hexner in his The International Steel Cartel, Chapel Hill, 1943, p. 33, fn. 4.

[2] Levy, H. The New Industrial System.

a widespread form of market control in Germany before 1914.[3]

A cartel may be defined as *a combination of otherwise independent business concerns for the purpose of regulating their relations in the market for competitive goods.* It is a contract or agreement among corporations, associations, individual firms, or individual proprietors for the purpose of regulating competition. The type of regulation imposed varies with the market problems encountered by the competing firms. Obviously, the market phenomenon in which all producers for the market are most interested is price. Hence the problem of cartels and other similar combinations is to control the prices at which (their) otherwise competitive products sell. Various administrative devices are used. The simplest form of such an agreement is one that sets minimum prices. But a mere agreement to observe minimum price lists entered into by a very numerous group of independent concerns is, as past experience has shown, not likely to succeed indefinitely. This is especially true if the firms have dissimilar conditions of production and are dissimilarly located in respect to non-homogeneous markets. Some firms usually find it to their advantage to cut price in order to sell greater volume of output and thus reduce overhead costs. Hence it is usually found necessary to limit the supply available for sale in the regulated market. This leads to the establishment of quotas for individual firms or groups of firms. This is not, however, a sure-fire remedy. It is often too difficult to prevent the sale of goods once they have been finished. Storage and interest charges mount and products may deteriorate as time goes on and the surplus accumulates. Fluid capital tied up in inventory raises credit difficulties. Hence the next step is to regulate production. But under the cartel system this is difficult if the productive capacity is already in existence, so many cartels have been led to limit plant, or the number of productive trees, as in the case of the coffee valorization and rubber limitation agreements. This device, if successful, would probably solve the problem of keeping supply at such a level as to result in prices satisfactory to the producers on the average and in normal times. But two dangers to the cartellizers still exist and threaten the established price structure.

[3] Liefmann, R. Kartelle Konzerne und Trusts. Freiburg, 1929, and Beckerath, H. v. Modern Industrial Organization. New York, 1933. For a history of the early combinations, some of which used one or more forms of cartellization, see Ripley, W. Z. Trusts, Pools and Corporations and Seager and Gulick, Trust and Corporation Problems.

The first of these dangers is the development of competitive enterprises by producers outside the cartel, trust, pool, association or "administration." These outsiders may be domiciled within the country where the cartel is organized or they may be located within a foreign country and enter the cartel's market either continuously or only when conditions of production or business depression in their home markets give rise to a "surplus."

How to prevent independents or outsiders from producing substantially the same good and from cutting into the market of the cartel members has always been a problem for cartel managers. In fact, if the good in question is easily reproducible, if it requires no very large investment in specialized, durable capital and if the raw materials cannot be corralled by the cartel, the problem has never been solved for any length of time as far as this writer is aware. The German cartels like the American (pre-Sherman-Act) pools were constantly breaking up, and reforming during the fifty years or so before the advent of Hitler. The same difficulty has caused the collapse of international steel cartels, of the Stevenson plan for regulating the price of crude rubber, and several of the coffee valorization arrangements.

The second danger to the cartel is that a substitute will be put in place of the specific good, the market for which has been placed beyond danger of intrusion. Substitution, in the experience of cartellizers, may be of several sorts. Direct substitution—stainless steel or magnesium alloy for aluminum, or aluminum for other metals—is common. A second type of displacement of the cartellized product is the development of substitutionary wants. Mechanical devices for reproducing music take place of the instrument which the "consumer" must himself operate, high protein foods reduce the demand for starchy foods.

The third type of substitution is the diversion of purchasing power from the cartellized product to some other product, the use of which involves the development of different complementary goods and even a fairly marked change in consumption and living habits of the consumer, or the introduction of a different technique by the producer. Examples of this type of substitution in the realm of consumption are the competition of automobiles (Sunday drivers) with housing, and with equipment for home entertainment. In the technical field, the substitution of reenforced concrete beams and pillars for either wooden or steel beams and posts shows

the same type of competition. Here the displacement was not in the field of family-size houses but in the substitution of apartment houses and hotels for such houses. As yet the cartels and associations have not found a satisfactory reply to this sort of competition, unless the alleged attempt of the railroads to stifle technical progress is an example.

Where the substitution is direct and from within the country where the cartel is domiciled, the cartel may either fight the intruders by various methods such as price cutting, legal exclusion from the markets (refusal of health officers to inspect outsider dairy farms), control of capital, control of raw materials, or by patents, or it may seek to include the competitors. That is, it may practice the ancient political policy: "If you can't lick 'em jine 'em."

If the competition comes from without the country, two devices may be used. The obvious one is a protective tariff. But protective legislation has disadvantages. It may result in a public airing of the objectives of the association which the association would rather avoid; it is inflexible, since tariff laws do not usually change at the moment when demand and costs change; and it may result in retaliatory legislation by other countries. Hence a cartel within one country may seek an understanding with a cartel or cartels within another or several other countries. This international cartel is of present concern in Washington.

A cartel of international scope is in several respects on a different footing from one limited by national boundaries. In the first place, there is as yet no sure method of securing legal recognition of the association and consequently no sure method of enforcing the contract, especially when a concern domiciled in the United States is a member. Like the "gentlemen's agreement," such cartels are prone to fall apart.

In the second place, the international cartel usually implies control of the market within all the countries participating. A cartel or powerful single producer within one country would seldom find any reason to enter into a contract with another producer in a second country unless there were some assurance that this producer could control both the domestic sales and the export of production from within that country. International cartels are often agreements between cartels.

Hence the international agreement for the regulation of the

marketing of a competitive good is generally undertaken to control exports to countries where there is no substantial production of the good. It may happen, of course, that one of the cartel countries imports the good, and in that case the agreement will stipulate for such goods the quota or the price. In this case the agreement has the effects of a protective tariff.

When one party to such an agreement between concerns of different nationality owns an important patent and the agreement concerns the production of the patented good by another national, a very different situation arises. The licensee in the second country may be able because of lower cost to undersell the owner in world markets. Or he may be able to sell in the owner's country at less than what the owner thinks is his most profitable price. Of course, the owner may be protected by a tariff. But if he is not, he may and probably will require the licensee to keep out of his home market. He may also divide the market among other nations with the licensee. This is not a typical cartel. Similar arrangements are made by patentees with their licensees within the owner's own country. The patent right confers on the owner the legal power to control the production and use of his invention and that implies control over sale prices. A monopoly of the patented device is created by law and by international treaty. The agreement between owner and licensee does not create it. Much the same conditions exist under international copyright.

The enforcement of national cartel agreements among the parties to the contract is attempted by various methods. When the government becomes the administrator of the cartel, as in the case of the AAA, the problem of securing compliance is chiefly one of policing. Fines and penalties such as loss of quota rights and excise taxes on excessive sales may be employed. Enforcement of these legal sanctions is a problem of politics and administration. Where the contract is not international and is not administered by the government, recourse may be had to the courts as under any other contract. But where the law stands neutral as it did in many jurisdictions in the United States until state and national antitrust acts were passed by the state legislatures and Congress from 1870 to 1890, some type of guarantee must be required if the pool or cartel is to be assured of successful continuance.

This guarantee may take the form of a fund maintained by the cartel authority as was the case in the international steel agree-

ment of the 1920's.[4] All members may be required to pay into the fund a percentage of their gross receipts from the sale of the cartellized article. Those who exceed their quotas are penalized by deduction from their deposits in the fund and those who exercise restraint in pushing their sales and thus serve the common purpose of restricting supply are given a bonus. Similarities with the government fostered price adjustment program of this country will occur to the reader.

Among trade associations which have attempted to secure compliance with standard prices, and which have been prosecuted by the federal government, various devices appear to have been employed. When there is one large firm in the association a threat by it to cut prices drastically is often enough to frighten the little fellows back into line. This is price leadership with the leader showing the mailed fist in the silken glove. The same type of sanction may be employed if there are a few large and many small concerns in the combine. Sometimes the control is not exercised through definite regulations but the leader's price is accepted by the lesser lights in the industry. Similarly, it may come to be understood that the smaller concerns will not encounter severe competition for customers unless they exceed their existing share of the market. This sharing of the market is commonly supposed to be a time honored custom among even the large meat packers.[5]

Another device for keeping the competitors in line is the circulation among them of cost data purporting to show the minimal prices that a seller must receive in order to make a reasonable profit or at least cover out-of-pocket costs. This "educational" material may or may not be accompanied by exhortations to the sellers not to ruin their own and others' market and by terrifying statistical data and word pictures of what happened on some previous occasion when "the market went to pieces." Cartels in other countries even when there are binding contracts have used all these methods at different times.

It thus appears that the methods of enforcement of the cartel

[4] Hexner, *op. cit.*, p. 72. This writer says: "Official reports of EIA [Entente Internationale de l'Acier] designate the first international steel accord as 'a gentlemen's agreement.' This term was generally adopted to describe the first EIA agreement. Its use in connection with the first EIA agreement seems hardly appropriate . . . the fulfillment of participants' obligations was secured by a system of fines, deposits, and a court of arbitration, and was by no means merely a matter of honor as is implicit in the phrase 'gentlemen's agreement'."

[5] Burns, A. R. The Decline of Competition, New York, 1936. Ch. IV.

contract, whether written in terms of price floors, quotas, or market areas, are often not unlike the methods employed by the ordinary trade association. To be sure, the cartel may be able to make use of legal enforcement or it may make use of the guarantee with accompanying fines and bonuses which the trade association cannot employ. There is no contract. Hence the distinction.

The decline of competition, or in opposite terms, the growth of trusts has been worked over so many times from the historical point of view that it is doubtful if anything can be added to the argument. But since a sketch of this development is necessary for the succeeding discussion it may be given briefly. Apparently the competitive situation among producers of goods for large, distant markets in the early part of the nineteenth century was largely one of unregulated, not to say chaotic competition. Products that the seller had to give up title to and which were collected by middlemen such as cotton and wheat, and possibly lumber, fell into this category. Where markets were local and sellers (producers or middlemen) were few, it is difficult to believe that unrestrained competition prevailed. Formal contracts were probably seldom entered into but understandings and explicit verbal agreements must have been common.[6]

With the development of the larger railroad systems, pools and agreements became the order of the day. The next notable development was in the products of oil refineries.[7] and of iron and steel works. But there were at least two especially interesting cases that did not involve large producers—large in the same scale as rail transportation and iron and steel. One was the Michigan Salt Association.[8] Still earlier combinations such as that in cordage, which Seager and Gulick say began in 1861, were also not combinations of large concerns. Writers on German industry do not find any substantial difference in that country. The last half of the nineteenth century may not have been an era of decline of competition but it was an era of combination in America and Europe.

From this movement most of the manufacturers of England ap-

[6] For example, does anyone suppose that the local buyers for two line elevators ignored their mutual interdependence, or that the local storekeepers never "talked prices" or looked into each others' store windows?

[7] Through consolidation, and trustification not pooling.

[8] For a history of the combination movement in the United States see Seager and Gulick, Trust and Corporation Problems, Ch. 7, and Ripley, W. Z. Trusts, Pools and Corporations. For England see Levy, H. Monopolies, Cartels and Trusts in British Industry, London, 1927.

parently stood aloof. The reasons for this exception to the common trend in industrial countries are not agreed upon. Generally it is said that the traditional individualism of British business men prevented combines. The absence of tariff protection, also traditional by 1870, may be an added reason. Physical peculiarities of the location of the island resulting in cheap transportation appear to have made foreign competition a threat to combination. Britain as the pioneer in the industrial revolution had by the last quarter of the nineteenth century developed a great oversea trade in specialized high quality goods. Finally the attachment of the dominions and possessions to the mother country by ties of blood as well as finance and administration may have had something to do with the later and less complete development of the combination movement. But when the movement did come, after 1918, it went far and at the outbreak of this war, combination was only slightly behind that in the United States.[9]

In this country the early combination movement which made use of the pool, the technical trust, the cartel and the association received a rather abrupt check when first the states and later the federal government passed legislation forbidding trusts and other combinations in restraint of trade. Shortly after the beginning of this adverse legislation, following the lead of Standard Oil, the holding company, which represented a type of cooperation not different in its objectives from the older forms, began to spring up among heavy industries. But a holding company does not rest on contracts between independent concerns for its power to control the market activities of its constituents. It rests on the property right which stock ownership of the subsidiaries confers on the top company. And because this property right also permits integration of technical research and production as well as sales activities, a holding company is now generally regarded both in America and in Europe as a preferable form of concentration, where a high degree of coordination of administration of operations is feasible. In England and on the Continent, before 1939, it was growing markedly. The cartel is thus no longer the dominant form of business combination among large-scale enterprises except possibly in Japan, where a complicated system of "family" groups has brought about a

[9] For summary statement of pre-war government fostered combines in Britain see Trade Regulations and Commercial Policy of The United Kingdom by The Research Staff of The National Institute of Economic and Social Research, Cambridge 1943. Pt. II.

greater degree of concentration than in any other industrial nation.

A movement which is world-wide cannot be explained in terms of the peculiar legal or other institutional factors. Neither is it reasonable to suppose that "the desire for monopoly profit" is a basic explanation of this phenomenon, although in this country there is still a tendency to resort to such moralistic explanations. Levy[10] stresses the development of cheap transportation and the concentration of raw materials; Plummer,[11] like *some* other British writers[12] on the general problem, inclines to a multiplicity of causes in his account of the growth of combinations and in his most recent book Nourse[13] appears to come to the same conclusion. Burns[14] stressed technological and market facts. No doubt legal institutions do influence the form of the combine, as, for example, in Germany, where the requirements for the organization of corporations put obstacles in the way of the holding company which do not exist in the United States. That cheapening of transportation was necessary before large markets could develop is obvious, and as long as markets were local, sellers were few and informal agreements could easily be made, perhaps after the manner suggested by Adam Smith in his peevish remark about the mischievous contrivances of tradesmen. Lack of control of final marketing, of information, and of financial reserves were certainly factors in the failure of such groups as wheat and cotton farmers to achieve control of prices until the national government came to their assistance.

But the lack of facilitating legal and other organizational conditions in some countries and in some types of production does not explain the world-wide trend of the combination movement under conditions which made such organizations possible. One is forced, it appears, to one of two conclusions. Either active competition between numerous firms was a brief interlude between mercantilism and nineteenth century combination and regulation, or the assumption of the liberal economist that such competition is a "natural" condition for capitalistic industry is somehow in error.

In favor of the first conclusion there are several arguments. When the industrial revolution increased the productivity of labor and

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[10] The New Industrial System. London, 1936.
[11] Plummer, A. International Combines in Modern Industry, London, 1934.
[12] The "laissez faire" tradition is still strong. See Lionel Robbins Economic Planning and The International Order. London, 1938. Pp. 111–128.
[13] Price Making in A Democracy. Washington, 1944.
[14] Decline of Competition. New York, 1936.

multiplied the uses of natural resources, the economic world was being rapidly enlarged. What is now the United States was just beginning to expand from a fringe of territory along the Atlantic toward the Pacific three-thousand miles to the west. Much of Central Europe was still semi-feudal and Russia had hardly emerged from medievalism. The Orient was still for the most part an unknown land as far as Occidental exporters were concerned and it was also undeveloped industrially. South America was sparsely settled and still feudalistic and the Southwest Pacific hardly existed in the minds of the laity. But in the next century the expansion of markets for goods, for investment and for the services of soldiers and European managers expanded mightily. Under these circumstances there was "room for all." Manufactures expanded and population grew in the industrial nations and in the colonial countries the production of raw materials and the development of commerce were also accompanied by an increase of population both from births and from immigration.

The geographical frontiers, at least as far as the then existent means of communication and possibilities of exploitation by Europeans were involved, began to close sometime in the latter 1900's. This factor, together with the rapid increase of manufacturing power derived from a steady stream of inventions and, it must be noted, with the spread of the empires of European countries, gave rise to difficulties about outlets for the products of the factory. Pools, associations, and trusts came into being in America and cartels in Germany. But no one can argue on theoretical grounds that there was a surplus of goods. Most of the world was then, as now, ill-clad, undernourished and badly housed. But as resources and manufacturing power were distributed, there was overcapacity.

Tensions were already at the breaking point by 1914. Germany's "place in the sun" was a demand not only of army officers itching to try out their new engines of death and gain renown for themselves, but also of business tycoons who wanted larger and more profitable markets. "Dollar diplomacy" was a phrase current in America, and France used her African and Oriental possessions with the objective of making Frenchmen prosperous. After 1919, the European countries encountered a disturbed economy and a dissatisfied electorate at home; and in foreign countries competition from war-born industry guarded by tariffs was found to have made inroads into the markets of the first decade of the century. In-

dustrial Europe did not resume its pre-war rate of growth.[15] Then followed the "surpluses" of wheat, cotton, coffee, sugar and rubber in world markets for raw materials. Agriculture in the Western Hemisphere was alleged to be "over expanded." From this tension came pooling of surpluses, valorizations, international quotas and finally in this country the various farm relief programs.

Of course, none of these tensions would have resulted in surpluses and idle factories if men had behaved in a rational manner, had disregarded national egotism, had been able (or, perhaps, believed they were able) to change to different occupations, and if industrialists and laborers had been content to take what a free world market offered them, even if it offered them nothing but wholesale bankruptcy, scrapped factories and unemployment. But none of these assumptions was fulfilled and so we lived in 1939 with more agreements among private individuals to regulate production and with governments forcing individuals more and more to pool their economic interests.

The foregoing sketch, which might be called an institutional accounting for the combination movement, is open to many criticisms. For example, Japan operated after 1919 under much less difficulty than the European industrialist encountered. Yet the concentration of industrial power is reported to be stronger there (pre-war, of course) than in Europe or America.[16] Although Germany, England and France failed to regain the rate of increase of industrial production shown by them before 1914, the United States showed a rising trend and so did the entire world. And as has already been said, the potential demand of the world for raw materials, food and industrial goods was far from saturated. The remaining points in the argument—dislocation of the European economy by the war and by political distractions after 1919, disrupted world markets and relocation of industry—appear to be valid.

The tendency toward combination has also been explained from Seager and Ripley onward in terms of technical conditions. Heavy investment in specialized equipment, together with physical immobility make competition more dangerous than it is under less capitalistic conditions. Risks are increased and firms protect themselves by surrendering some of their control over market relations

[15] See Kuczynski, J. "Alternde Welt—absterbende Industrieproduktion?" in *Kunjunktur-Statistische Korrespondenz*, Okt./Nov. 1934.

[16] See Robert A. Brady's account in his Business As A System of Power. New York, 1943, Ch. III.

to the trust or cartel. In other instances the gains from integration of all the stages of production of a specific good and from common technical and market research are sufficient to cause small control groups to sell out to a larger concern, or to go into a holding company and accept subordinate managerial positions. Disinclination to surrender their independence has probably been a factor in the slowness of British and French and to some extent German industrialists to accept amalgamation and the holding company. But the trend in those countries was there just the same. Under the assumptions of perfect competition the risks of specialized capital do not, of course, exist. But the actual world is not operated by managers who have perfect knowledge of contemporaneous data or perfect foresight. Equipment and even labor is not highly mobile. Managers of capital protect themselves by agreements with other managers, labor protects itself by trade union policies and practices, and farmers ask exemption from anti-trust acts and appeal for government support.

Another factor of uncertainty which has had greater importance in many industries in recent decades is the capriciousness of demand. While it may be true that the prices consumers stand ready to offer for substitutionary goods are proportional to the marginal rates of substitution (or to marginal utility, in older terminology) that fact has little relevancy to this problem when the critical element in demand is an indifference curve that can be changed by the seller. If the mechanism of this change were fully understood and if the results of different (future) types of consumer appeal were even moderately predictable, uncertainty for the producer might become a negligible risk. But such is not the case. Hence the producer tries to insure against deflation of the demand for his particular commodity by combining with other producers.

Uncertainty also comes in on the technical side. The purchaser of a new machine cannot know when it may become obsolete and place his costs above those of users of newer methods or cause the loss of discarding a piece of equipment before recovery of the initial investment. Here is a case of too wide a "frontier of science," at least for the comfort of the person affected. Hence a demand for limitations on the introduction of improvements which can only be accomplished by some form of agreement among producers, or lacking a check on improvements, the combine may keep the price up and the quantity down to enable the inefficient producer to make

some profit. Thus the Shoe Machinery Company agreed to provide its lessees among shoe manufacturers with improvements at the same time, and most of the subsidiaries and associates of the American Bell Telephone Company introduced the hand-set (combined receiver and transmitter) slowly and charged subscribers an additional monthly rental for a time when it was first installed, thus reducing the rate of obsolescence on the older equipment and providing compensation to the companies for discarding unexhausted property.[17] The surcharge for the new instrument also dampened somewhat consumer demand and enabled the company to make a more economical adjustment of manufacturing production.

The answer to the problem stated several paragraphs above: Was active competition an interlude of the eighteenth and early nineteenth centuries or are the new forms of combination and regulation merely new forms that contain the same elements of restriction that have always been present, is that probably both answers are partly correct. The kind of competition that is the traditional story of the early history of this country has declined. And it has declined in part because land frontiers are gone and because Europe has been having trouble finding adequate markets for the products of her heavy population. It is also true that as producers have become more specialized and as machines have come to contribute more to production, certain types of risk have increased—or at least men believe they have increased. From these conditions has arisen the world of combinations and cartels and trusts in which we live. And the most serious threat to mobility and free enterprise is not the cartel. The cartel, like the producers' (sales, or marketing) cooperative is not a very effective weapon for the exploitation of the public except under three conditions. Where it is in reality an alliance of giant concerns; where it is backed up by important patents; or where it has government support, it becomes powerfully effective in stifling competition.

The more powerful concerns which lack the above characteristics take the form of the giant corporation or the holding company or control through community of interest. Thus the Anglo-Dutch firm of Unilever, which occupies a dominant position in the manufacture of soap in England and on the Continent and which has spread out horizontally into dairies, edible oils and tea, is not a cartel but two

[17] The controverted question whether the surcharge was in all cases justified on the basis of "fair return on the prudent investment" is not relevant here.

holding companies. One half of the stock of each is held by two private corporations, one British and one at least nominally Dutch. These two companies have over one-hundred subsidiaries, primary, secondary and tertiary. This structure resembles one of the more deeply layered electric light and power holding companies in this country. Likewise the I. G. Farben in Germany is not a cartel but a giant corporation.[18] In the production of automobiles and steel in this country we find again neither a cartel nor an association but a "big three" group which seems not to engage in the type of perfect competition that economic theory has pictured. In the production and sale of petroleum products there are many concerns, yet no one doubts that price leadership prevails. In the production of crude oil a compact between the oil producing states (as governments) regulates the production quotas of oil well operators. To be sure the legal defense of this arrangement is the conservation of exhaustible natural resources, which is doubtless an excellent public policy, but no one can seriously deny that the desire to control the price of oil was an important factor in leading these states to form the compact and in obtaining the consent of Congress to its formation.

A common device employed by concerns in one country to control production and prices within other countries is the branch factory. Such a factory is ordinarily owned directly by a company domiciled in the foreign country. Cases in point are the sewing machine, farm machinery and automobile factories. Such branches enable a concern to jump tariff barriers and they also secure to some extent the goodwill of the national pressure groups by being a "home industry." Sometimes further political, financial and trade assets are acquired by these concerns by admitting important interests within the foreign country to stock ownership in the branch company.

The effect of cartellization on outsiders producing the same good is difficult to determine. In the past American pools were sometimes exclusive and predatory in their relations with their rivals. But the

[18] For a good account of the international interlacings of "interests" among large industrial concerns, see Plummer, *op. cit.*, Ch. II, "Types of International Combines." From this account it appears that American concerns were deeply involved in these interrelationships only a few of which were structurally identifiable as "cartels." Stock ownership, interlocking directorates, holding companies, and private companies (e.g. the two control companies of Unilever are shown by Plummer to be private companies). This type of control was also found among the electric light and power companies in the United States.

most ruthless attacks upon independents, as far as I know, came from the inchoate monopolies, such as the early cash register company, Duke's tobacco "trust" and from a mature near-monopoly, the Standard Oil as it was operated a half-century ago. Brand imitation, discriminatory price cutting, bribery of rivals' employees, libellous statements about rivals' wares, collusion with shippers to delay delivery of rivals' consignment; and the use of intimidation were the gross sins of the early business barons—both on the cattle range and in the industrial East. But a scanning of complaints to the F T C convinces one that these practices have not been monopolized by the "monopolists." The "little fellows" also are often involved.

All these predatory acts are now contrary to federal statute and most of them were illegal under the common law. However, a large concern can obviously make more effective use of them than a one-of-many competitor can. The only preventive appears to be effective policing. How commonly employed are these unfair competitive methods? It would be equally futile to try to estimate how many business contracts are broken or how many deadbeats there are among slow debtors. The offenses are not always susceptible of accurate classification and are often not easily proved in court or before a commission where procedures and the rules of evidence are less technical or designed less to favor the defendant than in a state trial.[19]

There is also the case of the unorganized producers: farmers who do not or cannot profit by crop restriction, support loans, and payments for soil conservation; "unorganized" workers who are also outside the professional guilds; manufacturers of unpatentable articles; other producers who for any reason are unable to form combines or giant corporations; and the whole tribe of small retailers.

If the combines are able generally to charge prices above the equilibrium level, those who are outside all combines may have reduced incomes. They will pay higher prices for both producer's and consumer's goods than if the sellers in combines were content with normal profits. But that they will pay more than if the combines had never existed cannot be proved. The pace of technical progress

[19] It used to be not uncommon for writers on trusts to assume that all allegations made by the prosecution were gospel and that concerns that had their practices examined in court were, if not the only sinners, at least the most flagrant.

may be hastened by the large concerns and the cartels.[20] Moreover, substitution is usually difficult to eliminate: witness what automotive vehicles did to the railroads, what General Motors did to Ford and the competition of electricity with manufactured gas. Not even a monopolist can afford to rest on his oars unless he owns the only supply of a primary, indispensable resource (are there any such?) or unless he can secure legal protection through discriminatory taxation or legislation that directly or indirectly confers immunity from substitutes. However, the preceding are long-run considerations and as such are of little consolation to groups that may suffer from monopoly prices or from exclusion from markets they would like to enter for (to them) relatively long periods of time.

How injurious have the combinations been to the consumer? What have been their net effects on price? Have other public interests such as conservation and stability of production and employment been adversely affected?[21] To these questions there is no general answer. It may be assumed that like Adam Smith's landlords the men in control of these concerns love to reap where they have never sowed; but as one critic of Smith remarked: All men do, the question is, How can they get away with it? And I would add: How efficiently do they garner and use the product?

One partial or "angle" answer is that combinations and cartel-like organizations are not *per se* bad. They are bad only if they benefit the wrong people.[22] Another variant is: They are bad only if abused. To this view the writer inclines. The compact among oil-producing states, for example, should be continued. Oil was (perhaps still is) being uneconomically exploited. The compact has at least ameliorated that undesirable practice. But should the compact become a device for the exploitation of the public, or should it enable sellers to discriminate among the different types of producers in a manner not generally deemed socially desirable, it should be regulated or if that appears not practicable unscrambled.

[20] Germany, the land of cartels, was also a land of progress in science and invention. The electric light and power industry is a legal monopoly. It is also an industry where improvement and invention has been remarkable for more than three decades.

[21] The relation of some of these combinations to the machination of the Nazis is another matter. In the case of the Borax combine, although press releases (N. Y. *Times*, Sept. 15, 1944) indicate that the deviltry was done by a holding company and not a cartel, the manipulation of American resources against our military interests was unconscionable.

[22] See J. M. Clark, "Our Economic Freedom." *The Annals*, March, 1942, p. 184. Clark does not defend this position.

The case of the light and power holding companies and the Public Utility Act of 1935 is in point.

There can be little question but that in the infancy of the industry the holding company, which disburdened the electric manufacturing companies of the securities they were obliged to take in payment for generators and other equipment, was a desirable business organization. The same may be said of the engineering and management companies that initially undertook improvement in the efficiency of the scattered plants owned by groups of investors, and which later acquired the majority of the stock of these scattered companies. When holding companies undertook the consolidation of small independent concerns in the same geographical area, they were likewise contributing to the efficient production and distribution of current. But when these concerns became the means of concealing excessive charges against consumers or of foisting unsound securities on the investors, they had to be curbed. Nevertheless, the federal legislation of 1935 did not prohibit electric power holding companies. It forbade a list of uneconomical and deceptive (to the investor) financial practices and it set out as a principle of organization that each holding company should be limited in scope to an economically integrated geographical area.

The abolition in the near future of *all* business combinations, including marketing cooperatives and government administered quotas is not in the cards. The reasons for their persistence have been listed. There remains, then, the problem of seeing to it that these concerns do not extend their activities beyond reasonable limits and that their power shall be subject to the curb of government regulation so that the ends of risk reduction, and a more rational adaptation of production to demand, which are undeniable social goals, may be served without too many detrimental excrescences.

It has been said that once the government recognizes combinations and especially once it begins to foster them, pressure groups will control both the corrective and the promotional aspects of government and use them for their own ends. For an example of control of the corrective aspect one needs go no farther back than the decade 1920 to 1930, when the inactivety of the anti-trust division of the Attorney General's office and the deliberativeness of the Federal Trade Commission in applying the provisions of the

Clayton and F T C acts were the effects of the demand for "normalcy" by business. Recent and current examples of the power of pressure groups to secure enabling legislation or administrative decisions in their favor are numerous enough so that the reader can make a selection according to his own fancy or his own political leanings.

That pressure groups have been powerful in national and state legislation since the United States was organized cannot be doubted for a moment. Yet before 1860 certainly, and possibly before 1920, the incidence of their activities probably had a relatively small effect on the economy. But just as the power of government over business, labor and agriculture increases through the adoption of new policies, the influence that may be wielded by such groups becomes greater. Whether this influence now is, or will become strong enough to reduce the national income below the level it would attain without combination is a question which the writer cannot answer. Certainly the manipulation of governmental authority for the advancement of private objectives has always been present. Yet the economic and social progress that industrial nations have made during the four and a half or five centuries since the revival of learning has been tremendous.

As was said above, there are dangerous risks in the great trend toward economic cooperation, and these hazards may be fatal to the maximization or even the continuance of the present national income. To guard against such adverse results no general formula will work. The procedures that will be required to prevent combinations from becoming chiefly predatory while we retain the advantages they bring must be specific. Every public utility holding company that comes before the S E C to justify its existence must cite specific evidence to show that it meets the requirement of economy of integration. So, too, one may hazard the forecast, every combination will in the future be required to justify its right to be and its practices. If we assume that pressure groups may become powerful enough to pervert continuously the judgment of Congress or of the administrative commissions, there is no remedy. But under that assumption the pressure groups would have their way under any type of business organization, or any form of government.

CONTRIBUTION OF PRICE POLICY TO THE INCOME AND RESOURCE PROBLEMS IN AGRICULTURE*

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IN THE many governmental programs affecting agriculture prices have played an important role. Prices have been used, however, in the dual roles of ends and means, with little or no recognition of the incongruous situation which arises because of this mixture of function. At some points, prices have been used as goals which various programs were supposed to achieve. At other points, prices have been manipulated to direct consumption and production. At times, particularly during the war, prices have been used as both means and ends at the same time. Various administrative agencies have been charged with the responsibility of attaining parity prices, of holding down prices and of using prices to direct production. It would be a surprise if all of these magic feats were attained at one and the same time.

The motivation for any economic or social policy is the desire for change from a present unsatisfactory position to a situation that constitutes an improvement, namely, from "what is" to "what ought to be." The underlying problems for which solutions are required are evident only from a comparison of the present and a more desirable situation. The major function of analysis is to present an understanding of the nature of the present situation and of the ideal which is desired. Viewed in this light, the major problems arise as discrepancies between the two circumstances. In this article we endeavor to show the most important points at which the present agricultural situation is most unsatisfactory and to indicate the contribution that price policy can make.

A preliminary but workable delineation of these problems is possible from a description of the functions of an economic system. This description does not provide information as to the actual content of the problem, but rather provides the basis of a useful analytical separation. Any economic system must perform at least three functions—the allocation of resources in production, the functional distribution of incomes to resource owners and the division of the supply of final products among consumers. In an enterprise econ-

* The writer is indebted to T. W. Schultz for numerous criticisms and suggestions for improvement, and to J. M. Letiche for help on a couple of troublesome problems.

omy, these functions, for the most part, are performed by the price system.

If various conditions exist, including free mobility of resources and accurate knowledge, the enterprise economy approximates the best allocation of resources within any given distribution of the ownership of factors. Each factor owner by using his resources where their marginal earnings are greatest produces a part of a total output which provides a maximum satisfaction for all concerned.[1] In the real world, however, mobility of resources and knowledge are not perfect and resources are not always, or even predominately, applied where their marginal contribution is greatest. Because of lack of knowledge firms do not reach their most favorable position and because of forces restricting mobility resources do not always find employment at the most favorable earnings. A different allocation of resources than that occurring in the real world would result in a total output that would be considered superior to the output currently being produced. *The nature and extent of the defect in the allocation of resources constitutes what we shall call the resource problem.*

The personal distribution of incomes in an enterprise economy is the result of the functional distribution of payments for the use of resources the distribution of personal capacities and the ownership of other resources among the individuals in an economy.[2] Under perfect competition the prices of the factors would equal their marginal contribution, though in actuality there may be important differences between the price and the value of the contribution. However, an income problem can exist even if all resources are employed at their best alternative if ethical considerations are given weight. Though an ethical criticism is valid and has been ably made,[3] recognition of a problem requiring general attention need not be based on such grounds. Unless society is willing to accept the type of income distribution which results from the receipt of per-

[1] Certain discrepancies, which may be called Pigou's divergencies between private and social costs, may exist. These will arise if a firm's output results partly from resources for which no remuneration is paid for under existing property laws, if consumers receive satisfaction from scarce goods for which no remuneration is made, or if the operations of a firm result in a disservice to other individuals as producers or consumers. Cf. A. C. Pigou, The Economics of Welfare, p. 174.

[2] Throughout the exposition personal capacities or labor services will be included in resources and ownership of resources will include the personal capacities of individuals as well as all other resources.

[3] See F. H. Knight, Risk, Uncertainty and Profit, pp. 178–181, and Ethics of Competition, pp. 54–58.

sonal incomes from returns of the resources as owned, it is necessary to distinguish or separate the effects of policies on the use of resources and on the personal distribution of incomes. It is increasingly evident that democratic societies are unwilling to accept the present unequal distribution of personal incomes. The progressive income tax, unemployment compensation, and the organization for the care of the indigent; death, inheritance and gift taxes, and a large number of other regulations and institutions are evidence that the distribution of incomes to persons in accordance with the ownership and productivity of factors does not lead to the realization of adequate democratic welfare standards. *The divergence between the actual distribution of personal incomes resulting from resource prices and the existing ownership of resources, and that fulfilling adequate democratic social welfare criteria constitutes what we shall call the income problem.*

Though the allocation of resources and the personal distribution of incomes are inexorably interdependent, economic analysis and policy formulation require an analytical separation of the two.[4] Any policy actually introduced will have important effects upon both even though the major end of policy is to affect only one or the other. Yet fundamentally, as we try to show below, measures required to improve the use of resources and the personal distribution of incomes are sufficiently distinct as to require separate formulation. A partial justification for an analytical separation of the two problems is the woefully inadequate political and lay thinking evidenced in recent years. In dealing with resources and incomes, two opposite and equally unrealistic propositions have been evident. On the one hand, there has been the prevalent assumption that if full employment existed, the income problem solves itself. Growing out of this belief was the idea implicit in the AAA legislation that the agricultural income problem could be solved if, by one means or another, product and resource prices could be increased

[4] Though economists have always analytically separated resource allocation (value theory) and income distribution (distribution theory), the recognition of the fundamental importance of this distinction in the analysis of policy issues has not been general. Failure to generally recognize this important distinction may have been due to the unwillingness of economists to make value judgments. Pigou (in his monumental Economics of Welfare) broke away from the tradition, and T. W. Schultz was probably the first to prove its usefulness in analyzing a specific set of public policies ["Economic Effects of Agricultural Programs," *American Economic Review*, Vol. XXX (February, 1941), pp. 127–154]. See also T. DeScitovsky, "A Note on Welfare Propositions in Economics," *Review of Economic Studies*, Vol. IX (November, 1941), pp. 77–88.

sufficiently. On the other hand, there has been the belief, particularly among the more naive socialists, that resource use is bad because incomes to persons are distributed so inequitably, believing that, if the total income pie were more equally divided, the resource problem would take care of itself!

Rational economic policy points to a course of action lying between these two extremes. The first position ignores the fact that many individuals in society simply do not have sufficient resources to provide an adequate income, even if employment can be found under the most satisfactory conditions. The second position disregards largely the relationships between income and incentives for production and the direction of investments. The intermediate area, however, provides a number of fruitful alternatives. In many cases, improving the allocation of resources will have positive effects upon income, by increasing the aggregate and improving its distribution. Similarly, improvements in the distribution of income among individuals may have beneficial effects upon resource use, if the improved income distribution results in warranted investments in the human agent thereby making it a more valuable resource and improving its mobility. Progress toward a solution of the income problem may also reduce the differential effects of capital rationing, which are particularly important and "costly" in agriculture.[5]

It is, however, an oversimplification to consider that there is a single resource or a single income problem and that any single policy measure will be sufficient to solve either or both. Both areas are highly complex and consist of important subparts which must be distinguished and recognized as important issues in themselves.

In this article an endeavor is made to discover the nature of these problems and to indicate the nature of the contribution of price policy. In addition, in a general fashion some other measures are presented which might be effective as complements to price policy in the areas of its greatest limitations.

In what follows the assumption is made that a forward price sys-

[5] Capital rationing implies that the firm is unable or unwilling to borrow as much as desired at the existing rates of interest. Two types of capital rationing may be distinguished. External rationing is the limitation which individuals outside the firm place upon the funds available to the firm. Internal rationing is self imposed in the sense that the entrepreneur is unwilling to borrow more than a particular amount because of his attitude toward the risks involved in undertaking such fixed obligations. For treatments of capital rationing see T. W. Schultz, "Capital Rationing, Uncertainty, and Farm Tenancy Reform," *Journal of Political Economy*, Vol. XLVIII, pp. 309–324, (June, 1940), and A. G. Hart, "Anticipations, Uncertainty and Dynamic Planning, Studies in Business Administration," The School of Business, University of Chicago, 1940, esp. Chap. III.

tem would be an integral part of any price policy adopted.[6] This assumption is made to permit presentation of the contribution of price policy to the resource and income problem in the most favorable light. The assumption is also made that the announced forward prices are essentially accurate and that the determination of the prices is not influenced by political considerations. The analysis is limited in its application to a comparison of conditions existing in a market economy essentially free from governmental interference with an economy in which there is an active price policy and other programs designed to improve resource allocation and the distribution of incomes.

I. Resource Problem

An analysis of resource use implies a comparison of the actual use of resources with an ideal. For our purposes this ideal may be stated in terms of two simple conditions. The first condition is that the value of the marginal product of a factor is equal to the price of the factor. The second condition is that the value of the marginal product of a factor should equal the marginal opportunity cost of the factor or the factor's marginal value product in its highest alternative uses. These two conditions provide a basis for dividing the resource problem in agriculture into manageable parts. Departure from the first condition is largely within the firm, while departure from the second may exist at any point where alternative uses of a factor present themselves.[7] Though the alternative modes of use are innumerable, a few stand out as of fundamental importance. For the purposes of this analysis it is convenient to classify the resource problem in agriculture as follows:

A. Allocation of resources within agriculture
   1. Within firms
   2. Among firms
      a. Among firms in different geographical areas
      b. Among firms in the same geographical area
   3. Allocation of resource use in time

[6] Forward prices mean simply the announcement by a governmental agency of prices in advance of planning operations. For further analysis, see T. W. Schultz, Redirecting Farm Policy, Macmillan, New York, 1942, and the series of articles by G. S. Shepherd in THIS JOURNAL (Aug. and Nov., 1942, Nov. 1943, and Aug. 1944). The writer intends in the near future to publish an article on the theory of forward prices, which will deal with certain administrative problems as well as the more general theoretical problems.

[7] The second condition may appear to apply directly to the operations within a firm, but it should be noted that for any given bundle of resources used by a firm the fulfillment of the first condition necessarily requires the fulfillment of the second.

B. Allocation of resources between agriculture and the rest of the economy
   1. Human
   2. Capital

A. Allocation of Resources Within Agriculture

The first step is to study the way the resources employed in agriculture at any one time are allocated. If we ignore for the present the query whether the proportion of the nation's total resources in agriculture is the proper one, we may examine several different points in agriculture where resource use could be improved. In our outline we have delineated four: (1) within firms, (2) among firms in different geographical areas, (3) among firms in the same geographical area, and (4) the allocation of resources over time. The second and third categories are separated because of differences in degree of mobility of resources, particularly of the human agent.

1. Within firms. The individual farm operator is confronted with many obstacles preventing the reaching of maximum returns from the resources he controls at any one time or might control through hire or purchase. Fundamentally, however, most of these obstacles grow out of imperfect knowledge or uncertainty.[8] The repercussions of uncertainty upon the farm are of two kinds. First, the farmer is unable to determine the kinds and amounts of outputs which would have given him maximum returns when reviewed from the vantage point of the future. The best he can do is to make his decisions on the basis of anticipations about the nature of the future that will exist when his productive efforts come to fruition. Second, the farmer is confronted with reactions of others to the particular situation in which he finds himself. These reactions are embodied in the terms and amounts of capital which he can obtain from sources external to the firm, which is the essence of external capital rationing. Closely related to this is the effect of uncertainty upon the farmer's conception of the amount of capital resources he

[8] Uncertainty is used to describe a situation in which expectations are not single valued (certain). It is thus broader than most definitions of uncertainty, but it is the writer's belief that any distinction between uncertainty and risk breaks down when applied to the individual firm. Insurance, for example, does not eliminate uncertainty; it only reduces the impact of uncertainty on the firm but can never completely eliminate it. If one insures a crop against destruction by natural causes, an element of uncertainty remains. If the crop is destroyed, the farmer may be forced to purchase feed at prices higher than he had anticipated, particularly if the crop disaster were widespread. Furthermore, insurance seldom reflects full loss because of "moral hazards"—and the cost of insurance is always greater than the actuarial cost due to administrative costs. Thus the decision to insure involves the same considerations as any other decision involving uncertainty.

should own or hire which in many cases leads to self-imposed capital rationing.

Inaccurate expectations are largely responsible for the types of misdirection in the use of resources which result in periodic output cycles in hogs, beef cattle, poultry, potatoes, cotton, wheat, and others, and in the failure of private individuals to adjust storage stocks in view of fluctuations in supplies and changes in business activity. Capital rationing, both external and internal, affects not only the size of the firm, but also tends to place an emphasis upon resources that are highly flexible contractually and technically. Because of past experiences, most farmers are unwilling to commit themselves to heavy and fixed contractual payments which must be met regardless of the returns of his production. Of the resources used in agriculture, the labor of the operator and his family most nearly approach this requisite degree of flexibility since this labor can be treated as a residual claimant. As a result there seems to be a distinct tendency to employ too much labor and too little nonhuman resources, resulting in a marked discrepancy in the marginal value productivity of capital and its money cost.

Price policy could result in a marked improvement in the utilization of the resources of the nation's commercial farmers. Forward prices could provide the necessary benchmarks to permit the attainment of an allocation of resources among alternative products on each farm which would closely approximate the most profitable for the farmer and the best allocation from the standpoint of society. If forward prices were announced for only one production period in advance, price policy would have some effects in reducing the importance of capital rationing. Investments in capital assets of relatively certain profits of the prospective year would undoubtedly be encouraged. Extensive recombinations of resources which would lead to any marked increase in the size of the firm and the use of a larger proportion of capital resources with a long life would occur only if there existed a forward price system covering several production periods.

For that part of the nation's farms, perhaps one-half,[9] who are

[9] That one-half is not an overestimate is indicated by certain data revealed by the 1940 Census. First, almost 2,000,000 farmers, or about a third of the total, gave household use as the major source of income from their farms in 1939. These farmers had a total value of product of $700,000,000 (14.5 per cent of the total for all farms) of which 60 per cent was consumed in the farm household. Second, 46.5 per cent of all farmers, employing 36 per cent of the farm labor resources and 18 per cent of the value of land and buildings, produced less than 11 per cent of the total value of farm products. Third, of this latter group of 2,700,000 farms, only 1,600,000 list farm

only loosely related to the price system, price policy can do very little. Most of the agricultural resources controlled by these farmers ordinarily do not find their way into the market place. Consequently, relative prices are not a complete guide to action and measures to improve the functioning of the price system would not markedly affect the allocation of these resources. There is unquestionably an important quantity of underutilized and undeveloped human resources on these 3,000,000 farms. Whether these resources can be fully developed and utilized involves social programs of a broad scale, including education, health improvement, and nutritional advancement as well as, in the vast majority of cases, migration and employment at other pursuits.

2a. Among firms in different geographical areas. In a competitive equilibrium a specified amount, say a man-year, of any factor should make approximately the same marginal contribution regardless of where it is employed.[10] Not having the data which would permit the determination of the marginal productivities for the factors employed in the different agricultural areas, other measures must be used in determining whether there is a major departure from an equilibrium position in the allocation of resources. Two such measures have proven to be useful, both as separate indicators and when used jointly. One is the average value produced per farm or per worker. The other is the relative combination of resources in agriculture in the various geographical areas, with resources being divided into labor and capital, including land. Both measures are subject to certain limitations, but when interpreted with some caution the results obtained should not be misleading.[11]

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household use as the major source of income, leaving about 400,000 farms falling in higher value brackets (over $600) which cannot be considered as fully commercial farms. Fourth, almost a sixth of the farm operators probably received more income from nonagricultural pursuits than from agricultural pursuits, though there is an important overlap with each of the above categories. These data are presented to indicate the large proportion of the agriculturally employed that are relatively detached from relative prices in agriculture.

Sources: Sixteenth Census of the United States, 1940, Analysis of Specified Farm Characteristics for Farms Classified by Total Value of Products, Cooperative Study, United States Department of Commerce and Department of Agriculture, 1943, pp. 3, 30, 58, and 102.

[10] The relationship between physical quantity of resource and value of product is used explicitly in place of the usual statement made in terms of the contribution of the amount of a factor which can be purchased for a dollar. If mobility is imperfect, factor prices, particularly for labor, may differ greatly from one area to another.

[11] The 1940 agricultural census, including the special sample study made by the census, provides fairly recent data for comparing regional differences in the employment of various factors and for determining a measure of relative productivity. In addition, the recent estimates of net farm income by states made by the Bureau

It is, of course, common knowledge to any agricultural economist that marked differences in the average output of farms in the nine geographic regions, whether measured in terms of value of products sold or net farm incomes, do exist.[12] Value of products sold per farm is lowest in the East South Central States (about $600 in 1939), while the Pacific States were highest (with four and one-half times that amount). Net farm incomes showed a slightly smaller absolute and relative dispersion, but the range was still large. The differences in productivity of the farm units cannot be explained

TABLE I. AVERAGE VALUE OF PRODUCTS SOLD, TRADED, OR USED BY FARM HOUSEHOLDS, NUMBER OF WORKERS PER FARM AND WORK OFF FARM BY FARM OPERATORS, 1939

Region	Index of farm income[1]	Average value[2] (in dollars)	Workers per farm[3] (man years)	Per cent operators working off farms[4]	Average days off farm[3]
Pacific	380	2,647	2.02	39	171
Mountain	260	2,168	1.82	33	135
New England	240	1,793	1.85	42	179
Mid. Atlantic	250	1,727	1.80	34	158
W.N. Central	210	1,716	1.48	24	100
E.N. Central	205	1,510	1.43	29	144
W.S. Central	155	1,013	1.90	27	124
S. Atlantic	150	915	2.01	28	152
E.S. Central	100	604	1.71	27	121
United States	185	1,309	1.73	29	135

[1] H. C. Norcross, State Estimates of Expenses and Net Income from Agriculture, 1929, 1939–1942, Bureau of Agricultural Economics, U. S. Department of Agriculture, preliminary (mimeo.), May, 1944. Net farm income is net income of operators exclusive of government payments plus wages, rent and mortgage interest.

[2] Sixteenth Census, 1940, Agriculture, Farm Characteristics by Value of Products, pp. 30–35. Table 1.

[3] Derived from BAE, USDA, Farm Wage Rates, Farm Employment, and Related Data, January, 1943, pp. 157–166.

[4] Sixteenth Census, 1940, Agriculture, Vol. III, General Report, p. 342, Table 8. Average days off farm is the average for those operators reporting work off farm.

of Agricultural Economics provides a fairly adequate measure of average farm productivity by states. Though the measure of productivity provided by the BAE study is superior to any measure that can be derived from the census, it has been found necessary to rely upon census data for some of the comparisons. In order to maintain comparability, census data have been used throughout much of the analysis. In each case when possible, the comparisons have also been made with the BAE income data, though the results are not always shown. Because the BAE data are preliminary and additional unpublished data were generously supplied by Mr. O. C. Stine, indexes are used rather than actual values.

[12] With the exception of the West North Central and Mountain States, there are only minor relative discrepancies between value of products sold and net farm income. The reason for the larger discrepancies in these two groups of states is apparently due to the smaller degree of underestimation of sales in statements to the census enumerators.

by differences in the size of the labor force as the largest labor forces were found with the greatest and smallest outputs per farm. Likewise, the differences in productivity cannot be explained by greater off the farm employment in the regions with the lowest productivity. For the three southern regions the off farm employment of farm operators is approximately the same as for the United States.

The reasons for the differences in the regional productivities must lie elsewhere. There are three possible explanations: (1) that the particular year used, 1939, gives unreliable results because of yields and prices that were atypical. An examination of data for four other years (1929, 1940, 1941, 1942), shows no important differences in the relative variation or rank, except that as farm prices increased the North Central States tend to move ahead of the North Eastern States due to the fairly obvious characteristics of the farm business in the two areas. (2) That the variations in output arise from differences in the quality of the labor employed. Though there is no empirical way of measuring the differences in quality, it can hardly be questioned that much of the labor in the three southern regions would compare unfavorably with that of the rest of the nation. One must doubt, however, if the average worker in the Pacific States could perform work four times as valuable as that performed by workers in the East South Central States, if the two groups of workers were in identical situations. (3) That the marked differences in productivity are due to important differences in the quantities of cooperating factors combined with labor. This is a fairly remarkable circumstance since approximately 65–70 percent of the net farm income is attributable to labor if capital is valued at the going market rate of interest.[13]

[13] The allocation of net farm income between capital and labor obviously rests on certain assumptions. Two approaches are possible; both, however, lead to approximately the same result. In one case, estimates of the total value of farm property may be assumed to earn a particular rate of return and the residual attributed to labor and management. In the other, labor is valued at the going rate and capital is assumed to be the residual claimant. Since it is difficult to obtain a wage factor to include the activities of the operator, the first method was used to obtain our estimate. The rate of return for capital was assumed to be 5 percent. On this basis, the residual going to labor was 62 percent for 1910–14, 65 percent for 1929, 66 percent for 1938–40, and 71 percent for 1941–42. Net farm incomes includes, in addition to the net income of farm operators, wages, mortgage interest, and rent to non-farm landlords. (Source of data: BAE, USDA, Net Farm Income and Income Parity Summary, 1910–41, mimeo., and Norcross, *op. cit*). These estimates are fully consistent with those made by Heady ("Changes in Income Distribution in Agriculture . . . " THIS JOURNAL, August, 1944, p. 440). In our case we have attributed the return to management to labor rather than as a separate category. Non-land capital is about a quarter of the total capital and if his proportion going to land is

The data in Table II substantiate the third explanation. The comparison of value of product with the value of land and buildings per farm indicates a very marked positive relationship between output and the value of land. The last two columns present the same data on a per worker basis, and in this comparison the relationship between output and value of land is even more direct. In almost every case, the larger the value of land per worker, the greater is the output per worker. The inclusion of cooperating factors other

TABLE II. VALUE OF PRODUCT SOLD, TRADED OR USED, VALUE OF LAND AND BUILDINGS PER FARM AND PER WORKER BY REGIONS, 1939[1]
(In dollars)

Region	Value of product per farm	Value of land and buildings per farm	Value of product per worker	Value of land and buildings per worker
Pacific	2,647	11,720	1,310	5,800
Mountain	2,168	7,623	1,190	4,200
New England	1,793	5,478	960	2,950
Mid Atlantic	1,727	5,858	960	3,300
W.N. Central	1,716	8,065	1,160	5,450
E.N. Central	1,510	7,289	1,060	5,100
W.S. Central	1,013	4,308	530	2,300
South Atlantic	915	3,099	460	1,500
E.S. Central	604	2,272	350	1,300

[1] Sixteenth Census, 1940, Agriculture, Farm Characteristics by Value of Products, pp. 32–35, and Table I above.

than land does not change the picture. Except for labor, land and the attachments to it is the most important resource used in agricultural production.[14] In addition, the quantity of other capital factors employed is closely related to the value of land. On a per worker basis, the value of machinery ranges from $90 in the East South Central States to $540 in the West North Central. The value of livestock varies from $190 in the South Atlantic States to $935 in the Mountain States. In general, the southern worker has less than a third as much machinery and livestock as do farm workers throughout the rest of the nation.

increased by that amount, the proportion left for labor is about the same as derived here. For 1910–14, for example, both methods leave 62 percent of the total for labor. No other periods are comparable.

[14] In 1940, for example, the Bureau of Agricultural Economics estimates that real estate accounted for 80 percent of the total value of farm property. (BAE, USDA, Net Farm Income and Income Parity Summary, 1910–41, Mimeo, July, 1942, p. 28.)

TABLE III. VALUE OF PRODUCT, VALUE OF IMPLEMENTS AND MACHINERY, VALUE OF LIVESTOCK, AND VALUE OF TOTAL CAPITAL PER WORKER, 1939[1]
(In dollars)

Region	Value of product per worker	Value of machinery per worker	Value of livestock per worker	Value of capital per worker
Pacific	1,310	420	450	6,670
Mountain	1,190	425	935	5,550
W.N. Central	1,160	540	765	6,760
E.N. Central	1,060	495	625	6,210
Mid. Atlantic	960	470	540	4,260
New England	960	295	370	3,610
W.S. Central	530	180	320	2,810
South Atlantic	460	100	190	1,830
E.S. Central	350	90	205	1,625

[1] Sixteenth Census, 1940, Agriculture, Vol. III, General Report.

These three categories of capital can be bought together to give a fairly adequate measure of all the cooperating factors. The last column in Table III does this. For the nation as a whole, the regional data indicate a marked consistency in the relationship between output per worker and the total value of cooperating factors.

In Table IV an attempt has been made to obtain a net product per worker which would show the relationships which would exist in a period of reasonably full employment. Value of product as a measure of productivity has tended to overemphasize productivity in the Northeastern States because of heavy purchases of partially processed raw materials, particularly feed. In addition price relationships in 1939 were probably in favor of milk and beef and against

TABLE IV. INDEXES OF NET FARM INCOME PER WORKER, 1939 TO 1941, AND TOTAL VALUE OF CAPITAL PER WORKER, 1939, by REGIONS

Region	Index of net farm income per worker[1]	Index of capital per worker (per cent)
Pacific	335	410
W.N. Central	265	415
E.N. Central	255	380
Mountain	250	340
Middle Atlantic	220	260
New England	190	220
W.S. Central	145	175
South Atlantic	120	115
E.S. Central	100	100

[1] Harry G. Norcross, State Estimates of Expenses and Net Incomes, 1929, 1939–1942, BAE, USDA.

hogs, wheat, and cotton relative to the relationships which would exist if the economy were operating effectively. As a result the three years, 1939 to 1941, have been used.

This change in the measure of productivity again makes but little difference, though the results are somewhat more consistent with our implied hypothesis that output per worker increases almost proportionately with the quantity of cooperating factors. The rank of each region in net product per worker and capital per worker is the same except for a single case—the West North Central States.

The analysis thus far presented may now be summarized. The evidence indicates unmistakably that output per worker is closely and positively related to the other factors with which his efforts are combined. This positive relationship between output and quantity of cooperating factors is what one would expect from the theory of the firm unless there is perfect substitution among the factors. The substitution of labor for capial in the capital poor areas has apparently reached the point at which it takes a very large amount of labor to replace a small amount of capital. Thus addition of more labor in the capital poor areas would increase output only slightly, while large deductions from the labor force will not markedly reduce output even if capital remains constant.

The preceding analysis has been based on a comparison of output per worker in average firms of greatly different size. As a result, the analysis could be strengthened if output per worker and the relative combination of resources for firms of essentially the same size, measured in value of output, could be estimated for the different regions. The data previously presented confounds two important factors which bear upon the marginal productivity of capital and labor: (1) the combinations of factors, and (2) the scale or size of the firm. By holding the latter constant, greater insight may be obtained as to the differences in factor combinations and variations in worker productivity.

Capital costs, per dollar invested, are approximately the same throughout the agricultural economy. Any marked difference in the amount of capital employed in producing a particular output must be reflected in a lower marginal productivity for labor. The sample study of the 1940 agricultural census provides fairly adequate data for determining the combinations of resources required to produce a particular output. A third measure of productivity has to be in-

troduced. This measure is what might be called value added by manufacturing and is found by subtracting certain expenditures from the value of products sold. For each region a composite firm producing an output of $1,000 was constructed from the data.

TABLE V. AVERAGE RESOURCE COMBINATIONS REQUIRED TO PRODUCE $1,000 OUTPUT IN 1939, BY REGIONS[1]

Region	Adjusted[2,3]		Unadjusted[3]	
	Labor (man-years)	Value of Land and buildings	Labor (man-years)	Value of land and buildings
W.N. Central	1.80	8,300	1.75	7,500
Mountain	1.85	7,200	1.85	6,200
E.N. Central	1.85	7,000	1.80	6,300
Pacific	2.00	9,000	2.00	8,800
Middle Atlantic	2.05	5,250	2.05	5,250
North East	2.10	5,000	2.10	5,000
W.S. Central	2.30	4,100	2.25	4,900
East S. Central	2.30	4,200	2.25	4,000
South Atlantic	2.55	3,700	2.55	3,700

[1] Sixteenth Census, 1940, Agriculture, Farm Characteristics by Value of Products.

[2] Adjusted data differ from unadjusted data due to attempt to remove differences in relative underestimation of products sold by regions as reported to the Census and to include estimates of costs of capital maintenance on buildings.

[3] The expenditures subtracted from value of products sold were for feed, fertilizer, petroleum products, and livestock. The estimate for livestock expenditures by regions was from BAE data, distributed among the value of products groups in proportion to feed purchases. The composite firm was found by estimating two simple linear regressions: (1) between labor and value added, and (2) between value of land and buildings and value added, for four value of products groups lying between $600 and $1,999. The data did not permit including other capital than land and buildings in the calculation.

Because of imperfections and limitation of the data, it is impossible to conclusively verify the hypothesis that there are consistent regional differences in the relative combinations of resources required to produce the same output. In general, however, the data indicate that in the areas of lowest output per worker, there is appreciably less capital and that as the amount of capital increases the labor inputs decline. With the exception of the Pacific and West South Central States, the combination of labor and capital required to produce $1,000 output is in line with the hypothesis. A comparison between the two extremes is interesting. In the South Atlantic States 45 percent more labor and 55 percent less land is used than in the West North Central States to produce the particular output.

The evidence points to three related conclusions: (1) there is a marked difference in the productivity of the resources that go to make up farms in the various regions of the nation; (2) after consideration is given to the difference in capital costs, the major difference in productivity is between the Southern States and the rest of the nation;[15] (3) the dearth of capital and the surplus of labor in the South are all too evident.

What role could agricultural price policy play in effecting a distribution of resources which would more nearly equate the marginal productivities of resources in the different regions? The role would be minor, but still of importance for commercial agriculture. Correction of the present inequalities depends largely on the movement of the human agent. This movement is controlled by many factors and relative earnings are probably of minor influence. In terms of a better allocation of resources, price raising measures would hinder rather than help. Any measures which attempt to improve incomes by generally increasing the price per unit of output would only distort further the inter-regional differences in the marginal productivities of resources and would lead to additional capital investments in areas where capital is now most plentiful. The region with the largest firms, because their incomes increase most both absolutely and proportionately, would be in the best position to expand. In all areas the higher prices would constitute a factor inhibiting the movement of labor out of agriculture.

Price policy, through increased price certainty, could reduce capital rationing and bring in more capital resources (particularly machinery, livestock and investments *in* the land) into certain of the areas involved. This reallocation would not affect the farms that are principally self-sufficient because the increase in price certainty would affect only a small part of their total output. Additional capital inputs, however, with the immobility of human agents and inelastic demands for major products, might actually result in greater discrepancies in the regional marginal productivity of labor. For instance, large amounts of additional capital in southern agriculture might well result in greater unemployment or underemployment in agriculture. If the output of its major product,

[15] For example, using the adjusted data in Table V, the New England farm uses 0.3 man-years more labor and $3,300 less capital than the North Central farm. If interest is charged at 5 percent, the difference in capital costs is $165 per year, or the equivalent of an annual wage of $550. Capital maintenance charges on buildings can be ignored because they are included in the adjusted figures.

cotton, were materially increased, the long-run effect would be to lower the share of the national output received by that area.[16] Additional capital investments can be more easily integrated into agriculture in the rest of the nation because of the greater mobility of the human agent and because in the other areas incomes may be high enough that part of the increased productivity may voluntarily find its outlet in leisure, whereas in the South only greater underemployment would result.

2b. Among firms in the same region. Thus far in our comparisons of the productivity of resources we have dealt only with regional averages. The variations within regions, which are somewhat more homogeneous than the nation as a whole, are likewise of interest. It is evident from an analysis of the intra-regional data, that possibilities for the improvement of resource use is not confined to the South. Even though population mobility is a function of distance, within agriculture the migration of people to capital resources is inhibited by other forces. The existence of capital rationing and other factors (including inheritance and past income) affecting the distribution of ownership or control of factors of production do not permit the achievement of equality of marginal productivity of comparable resources.

The differences in the combination of resources within each region have marked effects on the productivities of the resources. This point can be readily illustrated by drawing on material from one northern and one southern region. After excluding the bulk of the subsistence farms (those with value of products less than $600 in 1939), and those farms with over $10,000 value of products sold, the following relationships seemed to exist. (See Table VI.) Going from the smallest to the largest units, the productivity per farm increased by 13 times with less than a doubling of labor and an eight-fold increase in the value of land and buildings in the East North Central States. In the South Atlantic States the productivity increased 12-fold with a tripling of labor supply and a 14-fold change in the value of land and buildings. The increase in the value of land and buildings per worker was about four-fold in both regions. The data definitely show that as output increases on a per

[16] If the demand for cotton is inelastic, the share of the national income going to Southern agriculture would certainly decline. Furthermore, the absolute and relative shares going to labor would fall, while the relative and perhaps absolute shares going to capital would increase. Even if the elasticity of demand is unity, labor's absolute and relative shares would both decline.

TABLE VI. VALUE ADDED AND LABOR AND LAND SUPPLY FOR EAST NORTH CENTRAL STATES AND SOUTH ATLANTIC STATES, 1939[1]

Region	Value added	Labor supply (man-years)	Value of land & bldgs. (dollars)	Value added per worker (dollars)	Value of land & bldgs. per worker (dollars)
East North Central	490	1.58	4,190	310	2,650
	690	1.64	4,980	420	3,050
	994	1.78	6,170	560	3,450
	1,410	1.93	8,230	730	4,250
	1,825	1.98	10,425	720	5,250
	2,570	2.17	13,950	1.180	6,450
	3,970	2.55	21,775	1,560	8,550
	6,142	2.91	30,920	2,110	10,600
	15,987	5.90	41,810	2,710	7,100
South Atlantic	565	2.14	2,370	260	910
	740	2.25	2,775	330	1,100
	1,015	2.53	3,725	400	1,250
	1,140	2.87	5,340	490	1,450
	1,860	3.20	6,450	580	1,850
	2,480	3.53	8,170	700	2,000
	3,670	4.95	12,940	740	2,450
	5,550	6.80	22,260	820	3,250
	17,235	17.30	49,200	1,000	2,850

[1] Sixteenth Census, 1940, Agriculture, Farm Characteristics by Value of Products.

farm or per worker basis, the worker has considerably more cooperating factors.

Unquestionably differences in the marginal productivities of both capital and labor exist within the regions. It is not at all clear, however, that output would be increased by a reshuffling of factors so that there was approximately the same combination of factors. There is some weight provided for the argument that there is increasing returns to scale within the range of farm sizes considered. The evidence is not clear-cut, however, since as the size of farm increases the relative combinations of the factors also change in the direction of more capital per worker.[17] It may well be, however, that in terms of improving resource use that the answer lies in leaving the larger units as now constituted and increasing the size of the firm and relative amounts of capital per worker on the now smaller firms. This would involve the movement of human re-

[17] If increasing returns to scale did not exist, this would imply that capital use was not subject to diminishing returns throughout the relevant range of the data. This conclusion is untenable since it would mean that a withdrawal of labor from agriculture would increase total output.

sources out of agriculture and capital resources in, if total output is maintained.

The contribution of price policy must be considered from two viewpoints. Considering only the commercial farmers, greater price certainty would likely improve the position of the smaller farmer relative to the larger. The smaller farm units are most seriously affected by capital rationing and the discrepancy between the marginal productivity of capital and the rate of interest is much greater than for the larger farms. Thus reducing price uncertainty would permit a larger relative expansion in the use of capital factors for the small farmer. Price policy, however, would do little to aid the non-commercial farmer for the reasons pointed out above. It may be noted that if the goal of price policy is merely that of higher prices, there would be an adjustment in the allocation of resources within an area that would be inferior to that now prevailing. The major advantages would accrue to the larger units in which the allocation is now nearest the ideal.

3. Allocation of resource use in time. In allocating resources in time, two sets of major decisions arise, one dealing with the rate at which stocks of raw materials are transformed into final goods and services and move into consumption; and the other, with investment and disinvestment of agricultural resources. A major limitation of a free market economy is what might be called its shortsightedness, an orientation toward the present and near future which results in goods flowing through the production channels too rapidly at times, regardless of the effects on producer incomes and consumer satisfaction. The unwillingness to store a larger part of of the output of large crops grows out of the nature of price expectations and the financial position of most farmers. The financial position of most farmers as well as uncertainty as to future price movements makes impossible foregoing the present income or bearing the risks involved in holding. Forward prices would provide a satisfactory mechanism for a better time distribution in the flow of favorable products into processing and consumption. Forward prices would accomplish this because of the improvement in collective expectations and by providing farmers as a whole with a satisfactory alternative (storage) to immediate sale for consumption or processing.

The other important aspect is the way investment and disinvest-

ment in agricultural resources, particularly land, is occasioned:[18] (1) by radical changes in farm prices and incomes, and (2) the nature of the farm tenure system.

When the pressure of fixed obligations upon the farm, usually in terms of fixed contractual relationships but sometimes in terms of obtaining enough production for subsistence, becomes rather sharp, there usually occurs a type of disinvestment in soil resources which is manifested by erosion and depletion. If price policy is effective in evening out the cyclical swings of prices to a considerable extent, it will be effective in reducing a part of the waste and economic hardship arising out of inflated land values and consequent contractual payments which impinge heavily upon the farm family. In addition, it is likely that a more even income flow which would result from forward prices would mean somewhat less necessity for the exhaustion of human and material resources in a vain attempt to meet the direct obligations of the family, other than indebtedness.

Many of the forces leading to soil erosion and depletion, however, are beyond what can be affected by price policy. As recognized by all students of the subject, land rental under the primitive American tenure system is conducive to socially undesirable disinvestment of the land and generally does not lead to economically profitable investments. Under most existing tenure arrangements, the tenant is not forced to pay the value of the disinvestment nor is it possible for the tenant to receive payment for any unexhausted investments. Within the framework of our tenure laws lie some of the most important divergences between private and social costs. Farm tenure reform and a soil conservation program (embodying education, community and group agreements and limited subsidies) probably are necessary to cope with the problem.

B. Allocation of Resources Between Agriculture and the Rest of the Economy.

It is difficult to find an adequate basis for comparing differences in the effectiveness with which resources are used in agriculture and the rest of the economy. A comparison of average returns for the same resource is of little value, since the problem involved is that of transfer which requires a comparison of marginal

[18] It has been impossible to deal adequately with this topic in this paper. For good discussions of the second point see Pigou, op. cit., and A. C. Bunce, Economics of Soil Conservation, Ames, 1941.

returns. If there is unemployment above the so-called minimum level in the non-agricultural sector, nothing would be gained by moving out the under-employed in agriculture and adding them to the industrially unemployed. In a situation of unemployment, the marginal return is essentially zero for the labor transferred out of agriculture into industry, and this remains true regardless of any differences between average labor earnings in the two sectors of the economy. Actually, one has to deal with a rather hypothetical situation—namely, if resources were fully employed in the non-agricultural sector, would the economy gain from a transfer of resources between the two groups?

If the problem is posed in this way, the nature of the movement can be indicated rather simply. On the one hand, the human agent should move out of agriculture. On the other hand, many non-human resources should be moved into agriculture. The approximate extent of the movement of people out of agriculture is difficult to determine because we do not know how many people are in agriculture, in a significant sense. At least half of the nation's tracts of land that are defined as farms by the census make no significant contribution to the market supply of farm products. Some 10 percent of the operators of the 6,000,000 farms do not even classify themselves as farmers. In addition, in 1939 almost 30 percent of the nation's farmers reported work off of their farm and the writer has estimated at least half of these receive more income from wages than the value of products sold or used. Probably three-fourths of this number would receive more of their net income from wages than from agriculture. In this group is probably a fairly large number that have a satisfactory combination providing an effective use of their resources and talents.

One can only hazard a guess as to the number of people that would move out of agriculture if there were employment opportunities for them elsewhere and relative earnings were the only factor affecting mobility, but an estimate of the workers from 1.5 to 2 million farms does not seem to be too extreme. In any case, the number would be large.

The type of agricultural price policy that is instituted will probably have little to do with this movement. Though it might be possible to construct a policy that will deter the movement, it does not seem possible to do much by price policy alone to aid the movement.

The comment that non-human resources will move into agriculture as human resources move out requires some consideration since the conclusion is based on certain presumptions about agriculture. In the theoretical model of the firm and industry under competition, the demand for one factor of production (say capital) will be increased if the price of the other factor (say labor) increases if the elasticity of factor substitution is larger than the elasticity of demand.[19,20] If the elasticity of demand is less than unity as it apparently is for total agricultural output, only a moderately high elasticity of substitution would be required for the demand for capital to increase.

In addition to the influence of the elasticities of substitution and demand for the product, two other interrelated forces would be of importance in affecting the demand for capital. Capital rationing and the level of past incomes and savings are both important in affecting the demand for capital. If capital rationing exists the marginal value productivity of capital will exceed the interest rate and agricultural proprietors will have an incentive to expand the use of capital. However, the only important source of funds to expand capital use by purchase is through saving once the full ration allowances are used. Consequently, any change in the level of farm incomes per worker will, independent of other forces at work, increase the demand for capital. The out movement of labor to the extent necessary to reach the best use of labor resources would obviously raise the returns of those staying in agriculture. At the same time steps might be taken to reduce the effect of capital rationing through price policy.

An empirical analysis of certain agricultural data has been attempted to determine the marginal productivities of capital and labor in American agriculture. Census data for four agricultural regions were used; the regions were selected because the data ap-

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[19] See R. G. D. Allen, Mathematical Analysis for Economists, New York, 1939. Pp. 369–74.

[20] The concept of elasticity of substitution may be defined as the proportional change in total physical product divided by the proportional change in the marginal physical productivity of factor A when factor B is varied and the factor A held constant. If A and B must be used in fixed proportions, the elasticity of substitution is zero since for a decrease in B, the marginal value of A is zero. If one unit of A will replace one unit of B regardless of the relative proportions of the factors, the elasticity of substitution is infinite since a reduction in B will reduce the total product without changing the marginal productivity of A. A unit elasticity of substitution occurs if the proportional change in total product is the same as the proportional change in marginal productivity of A as B varies.

peared most adequate. Labor was measured by man-years; capital by value of land and buildings, and output by value added. Nine value groups were used in each region, giving 36 cases in all. A Cobb-Douglas production function was fitted without forcing the sum of the exponents to be unity. The regression equation found was $P = 1.5\ L^{.88}C^{.74}$.[21] This equation at first sight may appear to be incongruous. It indicates that for these four regions, there are increasing returns to scale and that the total payments to the factors of production exceed the total value of the product. The latter discrepancy, however, is based upon the assumption that the factors of production are paid at rates equal to the value of their marginal productivity. There is no reason that this should be true in an uncertain world. Capital rationing by limiting the size of the firm can force a discrepancy between the rates of payments and the value of the marginal productivity without excess profits existing. Similarly the existence of capital rationing can create increasing returns to scale since it prevents firms from reaching what would be the equilibrium position in a situation where single valued anticipations existed.

Some of the implications of the production function may now be indicated. The marginal productivities, at the mean values, are 15 percent for capital and $480 a man-year. The marginal productivity of capital is about three times the interest rate, while the marginal productivity of labor is about a third higher than U. S. farm wage rates for 1939. These marginal productivities, however, are higher than what would be achieved on the average for these four regions.

In fitting the production function, each value added group was given equal weight. On this basis, the average output of $1380 was almost 70 percent higher than the weighted mean of approximately $800. At an output of $800 the marginal productivities are 12 percent for capital and $390 for labor. The latter marginal productivity is almost identical with the average farm wage rate for 1939.

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[21] P is the value added, L is labor in man-years and C is the value of land and buildings. The regions included were Middle Atlantic, East North Central, South Atlantic, and East South Central. This equation given is only one determined in a more extended analysis of the production function in agriculture. Using data based on state averages for the same year, the following equation was found $P = 1.4\ L^{.88}\ C^{.77}$ which is a very close correspondence despite the entirely different nature of the data. The corrected coefficient of multiple determination for the function given in the text was 0.925 and for the other was 0.983. It is hoped that further results of this analysis will be ready in the near future.

Returning now to the probable direction of capital movement, it can be said that it is likely that capital will move into agriculture as labor moves out. A reduction of 20 percent in the labor supply would reduce the marginal productivity of capital from 12 percent to a little less than 10 percent.[22] The differential between the rate of interest and the marginal productivity would remain very wide and any reduction in capital rationing or increase in savings would result in the use of more capital.

It might be argued, on the basis of the above analysis, that more capital should be employed in agriculture regardless of any change in labor. If the elasticity of demand for agricultural products is unity or less, the employment of further capital will either reduce or leave unchanged total agricultural income; however, a larger share of the total and a greater aggregate amount would be paid to capital thus still further reduce returns to labor and further aggravate the disparity in the marginal value productivity of labor in agriculture compared with workers in the rest of the economy. An improvement in the use of capital would be offset by an opposite effect upon labor. However, if labor moves out of agriculture to any considerable extent, further capital investment would be desirable.

An improvement in resource allocation between agriculture and the rest of the economy can be aided by price policy if other measures are taken to improve the mobility of labor. Price policy would have two effects if greater price certainty were achieved. First, with greater price certainty the additional investment would be larger than it would be if the only force at play were the larger income resulting from less labor and a smaller output. Greater price certainty would provide the incentive for more nearly equating the marginal value of productivity to its cost. Second, the distribution of the ownership or control of the additional capital would undoubtedly be improved by a reduction of capital rationing. An important consequence of capital rationing is that its impact is variable, falling least on these individuals in the best income or capital position. Greater price certainty would give many farmers with meager resources a possible chance to acquire the additional capital.

[22] This statement assumes no change in agricultural prices following the withdrawal of labor. Since physical output would fall by perhaps 10 percent, depending on the areas from which labor migrated, the marginal value productivity of capital would fall only slightly due to the price rise for agricultural products. The extent of the price rise is unimportant in the argument, however.

II. The Income Problem

The income goals of American agricultural policy have been unfortunately narrow because the focus has been on commodity price parity. Interest has focused not only on the share of the national income going to agriculture, but also upon the income accruing to to particular commodity producers. This narrow conception has tended to straight jacket American agriculture and has precluded adjustments in both the allocation of resources and distribution of incomes that are necessary and desirable over the long pull. To some extent attention has been given to the strictly relief or poverty aspects of the income problem, but in terms of personnel or funds involved it is clear that predominate attention has centered on commodity price parity and the proportion of the national income pie going to agriculture.

The analytical techniques for dealing with the problems growing out of the level and distribution of the national income are much more primitive than those at our disposal for the treatment of resource use. In fact, we must look for our guides in the area of social values with a certain limited use being made of tools available in economics proper. In large part one must view the income problem in terms of an enlightened, social policy and, in our case, analyze the contribution that price policy can make toward reaching the desired goals. Though much of what is said here is applicable to the whole economy, the discussion draws wholly upon materials relating to agriculture.

The major income goals for agriculture are here considered to be four in number. The first is the goal of achieving a certain minimum scale of living for all members of society on the basis of social welfare criteria which can be spelled out rather specifically in terms of health, education, nutrition, and housing. A second is the reduction of differences in income distribution in agriculture. A third, which was mentioned above, is the raising of income to people in agriculture to a par with the incomes in the rest of the society. The last is the attainment of greater stability in the aggregate level of incomes, which may be desired both for itself and as an aid in the stabilization of employment and incomes in the rest of the economy.

In the analysis of the resource problem, we did not find it necessary to make any distinction in the application of price policy which would depend upon whether or not resources were being fully em-

ployed. The purpose at that point was to analyze the contributions and limitations of price policy in attaining a full use of resources. However, in the analysis of the income problem, striking differences in the nature of the income problem and the contribution of price policy exist in a condition of optimum use of resources and in a situation where many resources are partially or fully unemployed.

A. Income distribution in accordance with social welfare criteria. The exact extent of the poverty problem in agriculture obviously cannot be determined. Poverty is a relative concept which varies through time as the social values change with a rising average level of real income in a society. Not only is there the difficulty of determining what constitutes the nature of poverty, but the data on income distribution in agriculture are quite meager. The only reasonably satisfactory data were those obtained during a year of relatively low incomes, 1935–36. During that year about 10 percent of farm families were receiving relief and of the non-relief families 35 percent received less than $750 income from all sources, non-agricultural as well as agricultural, while 18 percent received less than $500.[23] In 1939, almost 45 percent of all farms produced less than $750 worth of all products, which the writer has estimated would mean a net income, including house rent, of no more than $550. The two estimates, however, are not comparable since the latter does not include income from non-agricultural sources.

Granted, however, that there is an important problem of a large number of families with sub-normal incomes and that our society, through its government, were to establish certain minimum standards of livelihood, would price policy be an effective means of meeting the goal? The answer must be negative. The means for attaining some of the minimum standards, such as education, can be satisfactorily supplied only on a community, state, or national basis. Improving nutrition involves better knowledge as well as income to purchase or produce the necessary products. Further, it is unlikely that health standards would be met except by an organized program, involving free or low cost medical attention and education.

The interrelationships between achieving a better use of resources and the solution of the poverty problem can be indicated. In the first place, even if full employment is achieved there will still be

[23] National Resources Committee, Consumer Incomes in the U. S., pp. 25, 101 and 103.

large numbers in agriculture that lack sufficient resources to permit the earning of the income required to meet the minimum standards of life established in accordance with social welfare criteria. An enterprise economy, without the collective efforts of society, does not have the institutions which permit the types of investments which must be made in the human agent. A human being is born without productivity; he achieves a particular level of productivity only through investment which usually must be made by the family in which, by chance, he is born. If the productivity or income of that family is very low, the nature of the investments made may be small and value of that individual to society as valued by his ability to produce will be meager.[24] In the second place, investments in terms of improved nutrition, health, and education which may be made by society have a continuing influence upon the use of resources and the distribution of income. Mobility, which is certainly required, becomes possible only as the individual has something to sell which is more valuable when applied elsewhere.

In an economy which is operating at full gear the types of investments which society would find profitable would decline in importance unless the social welfare criteria continually expanded. Because investments in the human agent are largely made by the family, the improvement in the status of formerly poverty stricken families will generally continue into the next and succeeding generations. However, just as the educational standards have grown, it is likely that the other aspects of the good life would expand through time.

In this development the role of price policy is fundamentally that of providing the necessary climate. As we have pointed out throughout this analysis, price policy has an important contribu-

[24] Marshall's treatment of this issue is particularly acute. In discussing investments made in children, Marshall points out that in the lower income ranks, investments are not made because of the "slender means and education of the parents" and that many children of the working class are poorly fed, housed and educated and "they go to the grave carrying with them undeveloped abilities and faculties." He then continued: "But the point on which we have specially to insist now is that the evil is cumulative. The worse fed are the children of our generation, the less they will earn when they grow up and the less will be their power of providing adequately for the material wants of their children, and so on to following generations. And again the less fully their own faculties are developed, the less will they realize the importance of developing the best faculties of their children, and the less will be their power to do so. And conversely any change that awards the workers of one generation better earnings, together with better opportunities of developing their best qualities, will increase the material and moral advantages which they have the power to offer to their children." (Alfred Marshall, Principles of Economics, 8th Ed., pp. 562–563).

tion in achieving a better allocation of resources, but that it must be supplemented at various points both to do the job on the resource side and especially to achieve better results in income distribution.

If resources are not fully employed, the poverty issue becomes of much greater magnitude. One of the major tragedies of the fluctuations which occur in output and income is the unequal incidence. The unemployed and partially employed suffer sharp reductions, while many who are fortunate enough to remain fully employed at monetary rates of earning that are sticky receive increases in real earnings. The techniques which must be applied for tackling the poverty problem in agriculture in such circumstances must be almost wholly outside the price system.

In those instances where increased incomes are required, it is questionable if the price system is an adequate or proper means of providing the income. In many cases, the farm families involved receive such a small proportion of their total income from the market that several fold increases in prices would be required to provide the necessary income. Using the price mechanism (without price discrimination with higher prices for lower income farms) to accomplish this goal would lead to maluse of resources, overinvestment in certain segments of agriculture, and unjustifiable windfalls to the commercial farmer.

Programs which would improve the health and education of farmers and their families would make an important contribution to resource allocation, if the programs are not "financed" through the price system. A large part of the immobility of poorer farm people is due to ignorance, lack of skills, poor health, and insufficient funds to make movement possible. A program properly designed and executed could well pay large dividends to society, but the price system is not an adequate procedure for directing the endeavor. It is important to bear in mind at this point that the price system affects incomes according to the productivity and ownership of factors; and this important fact is generally lost sight of in most popular and political discussions. Poverty, ill health and poor education are negatively correlated with the productivity and quantity of resources owned. Paying more for factors of production through the price system simply fails to affect the great bulk of the families in need of assistance on the basis of social welfare criteria. To further such goals, the program must be directly related to people, not to factors of production as such.

B. Relative incomes in agriculture. Whether the income distribution in agriculture has an undesirably wide dispersion can be determined only on the basis of social values. In line with the trend in social values, however, we are probably on safe grounds if we accept the hypothesis that any policy which tends to increase the dispersion in a relative or absolute sense is undesirable. The impact of full use of resources would be generally considered to be desirable. If it is possible to attain a socially desirable minimum standard of living for most farm families, probably the most important single aspect of the dispersion over and above this minimum level can be viewed with much less concern if the great bulk of the families have attained that level. In addition, the techniques for changing this part of the distribution are well established. The progressive income tax provides the technique for any sort of narrowing of the personal income distribution which society may desire and it is obviously the most acceptable device.

Except as price policy is directed toward an improvement in the use of resources, the effect on income distribution is to increase the dispersion. Insofar as price policy, say through forward prices, reduces the impact of capital rationing and makes possible the recombination of resources, income differences will depend less upon the chance factors which affect the distribution of the ownership of factors. However, attempts to improve incomes in agriculture by raising prices or by any type of conditional payments, such as those made by the AAA, which are tied to non-human resources, will increase the dispersion of incomes.

C. Relative share of national income going to agriculture. One of the worse of the pseudo-statistical myths perpetrated upon the American public has been that of agricultural income parity. The belief that any period can be used to measure the fair share of the national income which should go to agriculture or any other sector of the economy is contrary to all experience and it has no support in economic analysis. Changes in degree of relative unemployment, tastes, technology and differences in mobility are all factors that influence the part of the national income that any one group receives. The fact that this particular myth has been embodied in legislation makes it even more deleterious. Even worse yet is the consideration that it has led to steps that do not in any way correct the underlying conditions which may result in agriculture being depressed.

Comparisons of income per worker in agriculture and per worker elsewhere on the basis of available information lead to highly erroneous conclusions unless extreme caution is used. Income to farm people from agriculture as defined in legislation ignores perhaps a third of the total income accruing to individuals that are called farmers in the legal (or census) sense. Even when the income accruing to farmers from all sources is estimated,[25] problems of comparing dollar incomes would still be surrounded with a whole set of difficulties. Though the farmer normally receives only 50 percent or less of the retail value of food, farm products consumed by the household are valued at farm prices. In 1939, if home consumption were valued at retail prices, the net income to persons on farms from agriculture would have been increased by more than 20 per cent. Likewise, comparison of rental value of homes is difficult, if not impossible. The rental value of farm dwellings in 1939 was estimated at $110 a year per farm. Could comparable facilities, on the average, be obtained by the average non-farm dweller for $9 or $25 a month? No one knows, though the Bureau of Labor Statistics estimates for rents of workers from 1935–39 indicates an average cost of $20 to $35, depending upon the city.[26]

Any comparison of per capita incomes in agriculture and for the rest of the economy is grossly misleading for another reason. The fact that farm families are considerably larger than non-farm families may bear upon the desirability of income transfers to farm people for rearing and educating children, but it does not prove that the income of each individual on farms (including non-workers as well as workers) should be the same as for non-farm, nor that the income transfers should be made through the price system. There is certainly no fashion by which the price system can be used to insure that the income transfers accrue to the "right" families or are used for the desired purpose.

[25] The Bureau of Agricultural Economics' estimates of income to farm people from non-farm sources indicate that such income is equal to a third or more of the income from agricultural sources. See *Farm Income Situation*, August, 1944.

[26] The impression should not be left, however, that with careful and competent work that some income comparisons could not be made that have economic significance. Further studies should include analysis of income distributions for farm workers and other groups of workers on a regional or state breakdown. Such studies would provide an improved basis for analyzing resource allocation and comparative economic alternatives in agriculture and elsewhere. Such data would certainly be of great value to both economists and policy makers, and would have made our task in this paper much easier. Such studies would probably act to reduce some of the faith now held in the statistical averages on income, which would be a healthy result in itself.

Basically the share of the national income going to agriculture is related to several fundamental conditions: (1) the rate of technological advance in argiculture, (2) the relatively low price and income elasticities of demand for food and fiber, (3) the high birth rate among agricultural people, and (4) the level of industrial employment. Even when the industrial economy is operating at full gear, agriculture will offer gradually diminishing employment opportunities for labor. Because of the necessity of moving people out of agriculture, and experience has shown this to be a difficult and time consuming task, agriculture may well show many of the characteristics of a "depressed" industry.

Given these underlying conditions, even with full employment, agriculture will probably never receive its "fair share" of the national income in the market place without governmental interference. The fact that workers must continually leave agriculture means that at any one time earnings are lower in agriculture than elsewhere. Only if mobility were costless, which it obviously is not, would the necessity for the lower earnings in agriculture be obviated. But price raising measures per se are useless to correct the situation over the long pull. Raising agricultural incomes in this fashion merely leads to keeping more people in agriculture under reasonably similar conditions than if prices were left alone. Some short run gains can be made, but such gains would soon be dissipated by the induced increase in farm workers.

Fundamentally there are only two types of measures which will assure agriculture that over a period of time that economic opportunities in agriculture will be essentially comparable to those in the rest of the economy. One is to make mobility as easy and costless as possible. This involves employment opportunities in industry, education and training, effective employment agencies and various other steps which increase worker productivity. The other is the transfer of at least part of the costs of supplying the nation with its population growth from farm people to society as a whole. Agricultural people have long made large investments in their children and much of the returns from these investments have accrued to society as a whole and not predominately to farm people. The nature of the investments made in children is closely related with the ease with which excess farm population can be absorbed into the rest of the economy and thus with the problem of mobility. With the declining emphasis in our mechanized economy on the

need for unskilled workers, it is obviously a matter of "good business" for society to interest itself in the quality of one of agriculture's most important products—surplus population. What the exact character of the assistance to farm people should be is outside the scope of this paper, but low cost medical service, adequate educational opportunities, nutritional programs and family allowances immediately suggest themselves.

When non-agricultural resources are not fully employed, agriculture is faced with an unduly critical situation. The nature of price movements in modern economies is such that agricultural prices fall first and most, while the high rate of increase in population in agriculture forces more people to remain there. These two factors, combined also with technological advance, result in a sharp drop in total and per capita income in agriculture. It is not to be unexpected that the income position of farm people during an economic depression should cause alarm. The role of price policy for dealing with these problems is discussed in the next section.

D. Stable agricultural incomes. The goal of stable agricultural incomes, as enunciated by farm people, is largely a search for security. Given the primitive credit arrangements existing in agriculture, the wide fluctuations in agricultural incomes and asset values have resulted in hardship of a most acute nature. High incomes have too often found their way into inflated capital values which have later been deflated with resulting dispossession and loss. Stable agricultural incomes should also be viewed in terms of effects upon the maintenance of full employment in the rest of the economy. Because of the slowness with which expenditure patterns change and the sluggishness with which resources move, a sharp decline in incomes in agriculture can greatly intensify the severity of an economic collapse. Even though agriculture is not sufficiently important in the economy to be a factor in motivating a depression or recovery, the sharp changes in farm incomes do have important reinforcing consequences in either direction.

During periods of full employment, total agricultural income, income going to various products, and the income of individual farmers will vary. Total agricultural income is likely to vary but little under such circumstances, unless full employment is being maintained by inflationary means. The income for various products, however, will still vary as supplies change due to weather or inaccurate price expectations. The income of individual farmers will

vary for the same reasons, though to a greater extent. Price policy alone cannot eliminate these income variations. It has been suggested that forward prices should fluctuate inversely with the size of the crop. There are a number of disadvantages in this procedure, including its possible application only to products that move directly into consumption without further farm processing, but the most important is that stabilizing the total value of a crop does not stabilize the income of the individual farmer. A high degree of income stability can be achieved, however, by a forward price system with storages and crop insurance applied to the individual farm unit. Income uncertainty in livestock production due to the incidence of disease would still remain, but this uncertainty is of smaller magnitude than that arising out of crop fluctuations.

The more important issue is whether the price system should be used to stabilized aggregate agricultural incomes during a complete business cycle. There are several techniques for doing this, but the discussion of their relative merits cannot be undertaken at this point. We will merely assume that the choice is between adopting the best method of using the price system to stabilize aggregate income at some predetermined level or other techniques not operating through the price system. It is also assumed that as a part of an anti-cyclical program, the government will apply measures to maintain purchasing power in the rest of the economy and that there will be no discrimination against or in favor of agriculture.

Payments to agriculture during a decline in national purchasing power can be based on two related criteria—the relief of hardship and maintenance of purchasing power. Hardship grows largely out of the incidence of the depression in forcing incomes to a level insufficient to maintain a satisfactory scale of living,[27] and the loss of assets arising out of foreclosure due to tax delinquency and failure to meet charges on indebtedness. Maintenance of purchasing power must be considered not only in terms of the total purchasing power in agriculture, but attention must be given to the manner in which the funds are expended by the recipients. In addition to these two criteria, which are special aspects of income distribution, the effect of any payments on resource use must be considered.

As a means of reducing hardships, the price system does not

[27] It is assumed at present that the type of welfare measures suggested in Part 2a have not been adopted as a permanent program. If a permanent welfare program existed the emphasis on this aspect of the problem would be less.

provide an entirely adequate procedure for distributing funds to people engaged in agriculture. Of the total payments made, less than fifteen percent of all farmers would receive sixty percent or more of the payments, while half of the farmers would receive no more than ten percent. So marked a regressiveness would be both undesirable and publicly unacceptable. Part of the impact of a depression (on agricultural people) is the loss of earning opportunities of individuals requiring outside employment to supplement their agricultural incomes. For the great bulk of these families payments through the price system would afford only partial and inadequate relief. The halting of the movement of people out of agriculture by unemployment in the industrial sector is also an important cause of hardship. There is no reason to believe that the incidence of this added burden on many farm families would be so distributed that payments through the price system would be effective in cushioning this burden. Though a large proportion of the nation's farmers sell only a small share of their total output, the loss in cash income is of major importance to them. Payments through the price system to meet the needs of these families would have to be large in the aggregate because of the small volume sold by these families.

If maintenance of purchasing power and the effects on resource use are given consideration, the price system has certain advantages. For encouraging maintenance or increase of employment in the industrial sector, the total sum of payments made to agriculture is probably of no greater importance than the way the funds are expended. A major aggravating factor in a deflation is the difficulty of moving resources from the production of one product to a rather different one. If the funds paid to agriculture are spent in about the same way as in a more prosperous period, the contribution of the payments to recovery will be greater than if the funds flow into areas that would not continue once the payments were halted. Payments through the price system will also have advantageous effects on resource use as compared to other types of payments. Producers would continue to guide resource use in line with incentives provided through the price system. Resource use would certainly be superior to that which would occur as a result of payments such as those made by the AAA. There is no justifiable reason for using payments during a depression to limit or redirect production other than would occur from shifts in relative prices.

Provisionally it may be said that payments to agriculture during

a depression should be of two types. One would be a payment made directly to farmers as people as a means of directly relieving hardship. The function of these payments would be to maintain consumption expenditures and investments in the human agent (education, medical care, etc.) at a reasonable level. The other payment could be made through the price system as price supplements. Their purpose would be to encourage proper direction of the use of resources and a continuatuion of expenditures on durable investment goods (machinery, repairs, etc.).

Summary

Price policy, boldly and intelligently conceived, can contribute materially toward a solution of many of the income and resource problems in agriculture if it is properly integrated into a broader program. This program should be designed to mitigate poverty and its attendant human miseries, to increase investments in people through education, nutrition, and medical attention, and to improve the mobility of agriculture's excess workers. Acting alone, price policy would probably be an important factor in improving resource allocation within the firm and in reducing the impact of capital rationing. It would probably be important in causing a major reallocation of resources within agriculture and between agriculture and the rest of the economy. The contribution of price policy to the various facets of the income problem would be of only minor significance except in providing more stable incomes for the commercial farmers. If American agriculture consisted only of firms comparable to the largest fourth, price policy would undoubtedly be quite effective in improving resource use and the distribution of incomes. Price policy, however, must be a part of a broader social welfare program if it is to permit a marked improvement in the resource use of the great bulk of the farmers or in the personal distribution of income.

PUBLIC WORKS ON PRIVATE LAND

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THE emerging realization of the probable need for public works as one means to fill the unemployment gap during and immediately following the reconversion era invites an appraisal of our experiences as well as a consideration of what should be our future policy regarding public works on private land. This becomes doubly significant since future public works are being discussed in terms of housing, conservation of land resources, and other improvements on private lands as well as the conventional public works on public property, e.g., roads and schools. This growing realization that some of our most worthwhile job opportunities are to be found on private lands brings us face to face with the problem of how far and under what conditions the government is justified in spending public funds on private land. This article is an attempt to think through this problem and to suggest some of the important elements of a policy.

Public works as interpreted in this article are improvements constructed with public funds by government agencies or under their direct authority. The emphasis is placed upon rural public works although certain implications for public works in nonrural areas may be drawn. Unless otherwise indicated, public works experiences are taken from programs financed under the Emergency Relief Acts.

Exclusion of Private Lands

One of the most stringent and energetically enforced provisions of the public works programs carried out under the early Emergency Relief Acts of the past decade prohibited the use of public funds to enhance the value of private property. In actual practice this provision generally prohibited public works on private land. The purpose of this policy was twofold: first, as a protection against private windfall gains accruing from public expenditures, and, second, to minimize public competition and intermingling in activities considered to be within the domain of private enterprise.

This provision was well-intentioned but through its administration many projects affected with a strong public interest could not be approved in the enforcement of the letter of the law. In the ap-

plication of this policy, improvements were not permitted on privately owned farm, ranch and forest lands or privately owned hospitals and schools even though the resulting improvements would have been more in line with public interest than certain other projects which were permitted. Referring to the specific limitations on the WPA, one student remarks "As a result, work on privately owned hospitals, churches, schools, and institutions which once was carried on with work relief funds could no longer be undertaken. During the drought of 1936 the WPA was unwilling to drill wells on private property or for private use despite appeals from areas where there was acute water shortage. Similarly, it will not undertake the demolition of buildings on private property antecedent to prosecution of a private housing development."[1] The net result of this policy was the exclusion of public works from private lands under private sponsorship although this might not always be to the best interests of society.

The prohibition against public works on private land limited the range of useful projects. This limitation, while not so obvious at first, became particularly noticeable in some areas as more of the better projects were completed, leaving increasingly less desirable projects to be undertaken. After the primary county and township roads were "rocked" or graveled, the advisability of surfacing inferior and less used roads became increasingly questionable. Certain kinds of projects if considered under the concept of "diminishing returns" were occasionally carried beyond the point of optimum utility. This weakness might have emerged in clear perspective had the public works program not been interrupted by the war. If in the future, public works are undertaken on a large scale to provide jobs for the unemployed, the exclusion of private lands will seriously hamper the worthwhileness of projects which otherwise could be undertaken.

Frequently, the distinction between public and private lands, so far as public interest is concerned, seemed to be without foundation and occasionally brought ironic results. For example, men could be employed to build a county courthouse or a rural road but they could not be hired to clear or improve their own lands, the inadequacy of which was at the root of their relief and unemployment problem. The government could spend public funds for the con-

[1] Howard, Donald S., The WPA and Federal Relief Policy. Russell Sage Foundation, New York: 1943. p. 142.

struction of public swimming pools, but not to cap wells on private property even though the latter would have brought far greater public benefits through stamping out contagious diseases.

These ironies probably reached their peak in those areas in which limestone rock was used to surface roads that were seldom traveled while adjoining farm lands were in dire need of liming. In fact, the low productivity of some of these lands, which contributed to local relief and unemployment, was in no small measure due to the high soil acidity, which could have been largely corrected through an application of the limestone used on the roads.

Despite the strict precautions which were taken against spending public funds on private lands, protests of the abuse of public funds in the interest of private betterment are not without foundation. Evidence of this difficulty is found in the following WPA release: "Private property is sometimes turned into public property temporarily and for the purpose of getting improvements made on it at public expense—after which it is returned to private individuals. Thus, public ownership may serve as a cloak to hide a selfish mulcting of relief funds for purposes which have little or no thought of public benefit."[2] At the suggestion of Commissioner F. C. Harrington, Congress in 1940 enacted legislation which made the sponsor of a project as well as the persons or organizations to whom the property was later transferred liable to the United States Government for an amount equal to the amount of Federal funds expended on the project.[3] These examples of abusing the use of public funds should serve as a warning that extensive care must be exercised in the spending of public funds on private property regardless of the extent of public interest involved.

Modifications in Policy

From the very outset of the emergency relief programs, there was urgent and continual pressure to overcome the restriction against working on private property. Some of the earliest pressure came from private hospitals and health clinics which needed improved facilities but could not finance them. These petitions were denied.

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[2] WPA Release No. 4–1557, June 29, 1937. For further discussion of complaints see Howard, Donald S., The WPA and Federal Relief Policy, Russell Sage Foundation, New York, 1943, p. 143.

[3] Public Resolution No. 88, 76th Cong. 3d Sess., Ch. 432. H. J. Res. 544, Sec. 1 (f).

In 1937, Senator George W. Norris of Nebraska succeeded in driving the first significant wedge into the restriction against public works on private property. This was the inclusion of certain rural electrification projects sponsored "by and for non-profit rural electrification cooperatives." The following year, 1938, saw this provision extended to include "aid to self-help cooperatives." In the same year a further and perhaps more significant event took place. At the insistence of Senator Robert M. La Follette, Jr., the scope of public works was extended to include the "production of lime and marl in Wisconsin for fertilizing soil for distribution to farmers under such conditions as may be determined by the sponsors of such projects under provisions of State law."[4] In 1939, this provision was extended to other States, thus making it possible to produce limestone badly needed for the land of farmers through public works. At last it became possible to use limestone on agricultural lands as well as on rural roads.

Until 1939, public funds under the annual Emergency Relief Act appropriations could not be used to conserve private lands. But that year Congress, upon the recommendation of Commissioner Harrington, adopted a provision permitting expenditures for conservation projects on private property. According to the Act these projects had to be: ". . . sponsored by conservation districts and other bodies duly organized under State law for soil erosion control and conservation, preference being given to projects which will contribute to the rehabilitation of individuals and an increase in the national income."[5] While this provision extends the potential use of public funds to hundreds of thousands of farms, a greater number of farms outside of such "districts and other bodies" are still excluded.

Initial relaxations of the restrictions against public works on private land may be summed up in these words: "In spite of holding so strongly to its position with respect to benefiting individual property owners, the W P A found necessary and expedient occasionally, as when floods endangered health or life, to relax the prohibition against work on private property. Construction of sewers and water mains, mosquito control, mine sealing, construction of sanitary facilities and of fencing along highways—all projects affected

[4] Emergency Relief Act of 1938, Sec. 1 (1) 1.

[5] Quoted from: Macmahon, Millett and Ogden, The Administration of Federal Relief, Social Science Research Council, Public Administration Service, Chicago, Ill., 1941, p. 306.

with a public interest—have involved work done on privately owned property. Upon Colonel Harrington's recommendation, Congress in 1939 wrote into law a provision permitting prosecution of conservation projects on private property."[6]

In 1941, projects sponsored by "community ditch organizations" were added to the list of permitted projects. However, the exact nature of such projects remained rather vague until 1942, when Congress defined them more specifically as irrigation projects limited to those undertaken by "non-profit organizations organized and operated for a community benefit." The 1943 Act also included these provisions.[7]

The slow and tedious evolution of public works on private land under the emergency relief appropriations appears rather inconsistent with past public improvements, or "internal improvements," to which private as well as public benefits have accrued. This policy also appears to be inconsistent with the contemporary philosophy of the Soil Conservation Service and the Agricultural Adjustment Agency, for example, which conducted soil building and soil conserving programs on private land with public funds although parts of these funds were refused to similar E R A projects.

Essential Elements of Future Policy

Doubtless, future public works policies will follow the precedents developed in the 1939 and later relief acts, and will recognize that public welfare may be enhanced by expenditures on private as well

[6] Howard, Donald S., The WPA and Federal Relief Policy, Russell Sage Foundation, New York, 1943, p. 143.

[7] Those sections of the 1943 Act which relate to public works on private land are quoted for the purpose of portraying our present legislative attitude toward public works on private land. Since this attitude may reasonably be expected to be indicative of similar legislation after the war, permissible projects are quoted as follows: " . . . electric transmission and distribution lines or systems to serve persons in rural areas, including projects sponsored by and for the benefit of nonprofit and cooperative associations; . . . flood control, drainage, irrigation, including projects sponsored by nonprofit irrigation companies or nonprofit irrigation associations organized and operating for community benefit; water conservation; soil conservation, including projects sponsored by soil conservation districts and other bodies duly organized under State Law for soil-erosion control and soil conservation, preference being given to projects which will contribute to the rehabilitation of individuals and an increase in the National income; forestation, reforestation, and other improvements for forest areas, including the establishment of fire lanes; . . . eradication of insect, plant and fungus pests; the production of lime and marl for fertilizing soil for distribution to farmers under such conditions as may be permitted by the sponsors of such projects under the provisions of State law." Emergency Relief Appropriation Act, Fiscal Year 1943, Public Law 651—77th Congress, pp. 1–2.

as on public lands. Such a policy, accompanied by adequate protective measures, would have a significant and salutary effect upon the nature of future projects since many of the most worthwhile work opportunities are on private land.

As a safeguard to public interest, future public works on private lands must be highly selective, affected with a strong public interest, and provide for the responsibilities of the landowner in seeing that the public welfare is furthered. Some of the specific factors which experiences indicate should be given serious consideration in proceeding with future projects include: (1) substantial public interest, (2) who receives the benefit, (3) ability of landowner to pay, (4) landowner's will to do, and (5) bilateral responsibilities on the part of government and the landowner.

Applicability of these factors as elements of policy varies with different situations. Some may not apply under certain conditions. For example, the "benefit received" factor may be dispensed with if a large degree of public interest is involved, particularly if the individual cannot pay for his share of the benefit. But despite certain qualifications and limitations these factors appear to constitute basic considerations in spending public funds on private lands.

Substantial Public Interest

Probably the first and most important justification of public works on private land is the presence of a substantial public benefit. But public interest is a concept which must be used judiciously. Otherwise it may take the form of a cloak of ambiguity for hiding expenditures and acts that may not be desirable, or consistent with the best public policy.

The judicial, legislative and executive branches of government have never specifically and exclusively defined public interest. What appears to be "in the public interst" changes from time to time depending upon the social viewpoints of people as determined by changing social, economic, and political situations. Public interest is a growing and evolving concept that continues to take on new meaning as government is called upon to assume new duties in behalf of individual and group welfare. "It is true, of course, that wherever particular work has to be done by a government agency upon privately owned land, as in the case of work done in an erosion control, flood control, or forest maintenance program, some individual landowners may receive benefit from the work. The rule that

the courts have developed to meet this difficulty says merely that where the benefit to the individual is incidental to the object of achieving a benefit to the general public, the expenditures will be held to be for a public purpose."[8]

Mere existence in a project of some public interest should not be taken as a sufficient justification of public expenditures. The public interest must be substantial. The control of erosion under conditions where almost 100 percent of the benefits accrue to the owner through increased crop yields would not meet the test of substantial public interest. Erosion control that benefits the public is sufficiently different from merely helping a farmer to produce more by supplying him with fertilizer and lime. The difference is one of substantial and incidental public benefit. The justification for erosion control work on private land must be found in (1) destruction or marked deterioration of neighboring farms caused by uncontrolled erosion on the farm under question; (2) destruction or serious deterioration of waterways, lakes, and reservoirs for recreation, navigation, and water supply purposes; (3) washing out of bridges, roads and other public improvements; (4) lowering land values through widespread erosion, thus reducing the community tax base and resulting in ultimate land abandonment. Such conditions give rise to a substantial public interest.

An analysis of the taxing power brings the relationship between public and private interest into clear perspective. According to the Constitution the taxing power of governments, which in normal times provides the chief source of public revenue, may not be used for private purposes. But the taxing power, as Professor John R. Commons reasons, "always is used for private purposes and can be used in no other way, for its effect is to reduce the field of freedom and liberty for the taxpayer and enlarge the field of freedom and liberty for all who are benefited by the tax. The question always is, not, What is a private purpose over against a public purpose? but, Is the private purpose *also* a public purpose, or *merely* a private purpose? Will the behavior of the persons benefited prove to be, in the direction of that benefit, also a public benefit? Are they a limiting factor, at that point, in multiplying the total welfare of the Nation, and should their field of action be enlarged by restricting the field of others? Are they valued as a part of the public respect-

[8] State Legislation for Better Land Use. A Special Report by an Interbureau Committee of the USDA, April 1941, p. xvi.

ing that particular transaction, or are they valued as instruments to carry out the will of private persons? . . . will their private wealth be also a commonwealth?"[9] The private purpose may be served concomitantly with the public purpose. In this way, private wealth or private benefit also becomes commonwealth or public benefit. This point is brought out clearly in the case of soil conservation: "Inasmuch as the private owner performs a function which is of a public as well as a private benefit when he conserves a national resource, there is ground for if not an obligation upon the public to share the costs of conservation."[10]

If the public purpose, which is in reality a community but not a conglomeration of private purposes, is served, sooner or later the interests of individuals are served because the public is not an abstract entity set apart from the individuals who constitute it. The primary question is whether the individual benefits solely or mainly from the public expenditure to the exclusion of others.

In certain instances the welfare of a large number of people is considered as a public interest. According to this viewpoint, a certain number of people becomes prerequisite to the establishment of a public interest. But the public interest is something more than a conglomeration of private interests. Public interest is something more than the mere summation of private interests. If these private interests were not affected with public interests before they were combined, there is nothing in the adding-up process that would do so.

On the other hand, the public interest need not include all of the public. It may be limited to a particular individual. For example, the Supreme Court has declared that a single farmer in the State of Utah might exercise the power of condemnation to obtain enough water for his own use.[11] "But he was granted that power not as an individual—he was granted it on account of the expected public purpose he would serve by augmenting the national resources. He was granted it as a *class* of individuals, though he happened to be the only member of the class. The public is not any particular individual; it is a classification of activities in the body politic deemed to be of value to the rest of the public rather than a classification of individuals. Anybody who comes along independently and gets

[9] Commons, John R., The Legal Foundation of Capitalism, The Macmillan Co., New York, 1939, pp. 326–327.
[10] Ely-Wehrwein, Land Economics. Macmillan, New York, 1940, p. 478.
[11] Nash, Clark V., 198 U. S. 361, 1905.

himself into a position where he might perform that class of activity, is the public. His private interests, when he gets in that position, are deemed identical with the public interest. When this identity is recognized by the functionaries of government, then to him is granted a certain share of the collective power which he did not enjoy before, and, correspondingly, the owners of the public disutility which places undue limits on that activity are subjected to duties of avoidance, performance or forbearance which they did not obey before."[12]

The W P A adopted a general administrative rule to the effect that at least 20 people should share in a project before it could be approved. Of course, exceptions to this rule were made depending upon differing circumstances. However, this number did serve as a rough measuring stick of public interest.

Care must be exercised that private lands are not benefited to the exclusion or subordination of public interests. The private rancher who obtains a water supply at public cost and for public use which is completely inaccessible to anyone but himself is a case in point. This is an example of why private lands were at first excluded from the field of public works. This was why public works, when they were finally permitted on private lands, were required to be done through a regular or *ad hoc* government unit or nonprofit organization.

Benefit Received

After the public benefit has been clearly established, arrangements should be made for sharing the costs on an equitable basis. The benefit-received principle appears to constitute one of the fairest bases for allocating costs incurred in public works on private lands. "In general, costs should be shared among individuals and governments in rough proportion to benefits except in cases where individuals or groups cannot, under such an arrangement for sharing the costs, undertake activities that should be undertaken in the national interest. Often, in the interest of economic reconstruction and employment stabilization, the Federal Government may be justified in bearing more than its proportion of the costs up to the limit of broad social benefits. The lack of criteria and techniques for the precise measurement and allocations of indirect, intangible and broad social benefits makes it necessary to resort to general

[12] The Legal Foundation of Capitalism, op. cit., pp. 328–329.

judgments when attempting to apply the above principle in the evaluation of specific benefits."[13]

Within the limitations indicated above, the individual should be expected to contribute to the improvement roughly in relation to his benefits. This contribution may be in the form of maintenance costs, materials, labor or other services. His contribution, however, may take on a more immaterial form such as eradicating a substandard house in return for a livable house constructed under the Regional Housing Authorities.[14]

Ability to Pay

Wherever a substantial public interest is at stake, even though the individual is not in a position to contribute in relation to his benefits, it is quite possible that the project should be considered favorably. This applies particularly to certain conservation work which individuals cannot afford to do without government aid even though the individuals do receive benefits in the form of increased income or increased land values.

As a general rule, the public expenditure should not exceed the extent of public interest and should be as much less than the public benefit as is consistent with getting the job accomplished. This is particularly true when substantial private benefits arise. Unless the individual is interested in the project to the extent that he will make a substantial contribution in relation to his expected benefits, the propriety of undertaking the project is doubtful. The public benefit per unit of public expenditure should be maximized in light of what the private beneficiary can afford to do and in light of other alternative channels into which public funds may be expended.

The Will To Do

The landowner's will to do is another consideration which must not be overlooked in spending public funds on private land. Individuals benefiting from public projects should be sincerely interested in the work done and in backing up their interest with specific and concrete contributions to the project. Otherwise, we may experience

[13] Public Works and Rural Land Use, Report of the Land Committee of the NRPB, Washington, D. C., Sept. 1942, p. 13.

[14] For example, the Southwest Georgia Regional Housing Authority sets forth two objectives: (1) the elimination of unsanitary houses, and (2) the provision of sanitary, satisfactory living quarters for those who could not afford to build. For every home built, one in the county had to be eliminated, but not necessarily on the same farm.

numerous repetitions of the farmer who, not being thoroughly "sold" on the idea of terracing, called up a county government office after a heavy rain washed out some of the terraces the government had built on his farm and said, "You'd better come out and fix *your* terraces." This farmer had never accepted the terraces as *his*. Consequently, he did not feel obligated to keep them repaired.

Material contributions on the part of individuals give them a stake in the improvement and a deeper feeling of interest and responsibility in using and caring for the project whether it be the establishment of a woodlot, the building of terraces or improvements in home sanitation. This consideration places public expenditures in the light of "helping people to help themselves" and is one of the best guarantees of the proper maintenance and utilization of the improvement.

During the early and middle 1930's, agreements were made between the government (Soil Conservation Service) and farmers for demonstration erosion-control projects. The purposes of these projects were to determine, in various areas, the most effective erosion-control measures and the use to which the land was best suited and to demonstrate the results of these findings to farmers.

Under the demonstration projects, work on private land required counter or compensatory services from the farmer upon whose land the work was done. Such agreements were legally binding contracts between the landowner and the government. In varying degrees, depending upon the physical situation and the ability of the farmer to contribute, he furnished labor and materials and agreed to follow a farm conservation plan developed on the basis of a survey of soils, slope, degree of erosion, and treatment necessary for soil maintenance and erosion control. It was thought that if the farmer bore part of the cost of the conservation work, he would be more apt to protect the improvements and go forward with conservation measures on his own initiative than if the government paid the total cost of the job. The project would thus mean more to the farmer, to his neighbors and to society.

Bilateral Responsibilities

The landowner as well as the government must accept responsibilities for carrying out and maintaining the public's interests in the work for which public funds are expended. This can be done through contracts and agreements through which both parties—

the government and the landowner—assume their full share of responsibilities in carrying out the interest of the covenent. The responsibility must be bilateral, and must be binding upon both parties. An unilateral agreement, binding only the government, is not sufficient to protect the public interest. Under appropriate arrangements, the continued action in the public interest must be guaranteed by the individual or the local unit of government that "sponsors" the project.

Under the W P A regulations as discussed earlier, only organizations and local units of government were recognized as being capable of assuming the necessary responsibilities. In this respect, the district organization is considered to be in a position to protect and guarantee the public interest through land use plans and regulations within the district. Appropriate land use regulations might be made a condition for Federal participation. This means might develop into an effective way of using the "spending power" to overcome local reluctance to enact land use regulations.

Arrangements for Protecting Public Interests

In spending public moneys on private lands the government must assume the responsibility to the Nation's taxpayers and citizens for seeing that the purposes of these expenditures are valid and that the best interests of the Nation are safeguarded. In carrying out this responsibility the government possesses commensurate authority to require that individuals meet certain requirements in the way of counterservices, contributions, maintenance regulations and others, as a prerequisite to going ahead with the work.

The authority and propriety of this procedure are well established and are succinctly stated by Chief Justice Stone in these words: ". . . The spending power of Congress is in addition to the legislative power and not subordinate to it. This independent grant of the power of the purse, and its very nature, involving in its exercise the duty to insure expenditure within the granted power, presuppose freedom of selection among divers ends and aims, and the capacity to impose such conditions as will render the choice effective. It is a contradiction in terms to say that there is power to spend for the national welfare, while rejecting any power to impose conditions reasonably adapted to the attainment of the end which alone would justify the expenditure."[15]

[15] United States v. Butler et al., Receivers of Hoosac Mills Corp. Argued December 9, 10, 1935. Decided January 6, 1936. 297 U.S. 1–88. 80 Law Ed. S. Ct. 477.

Justice Stone goes on to point out the absurd consequences which would result from an invalidation of limitations placed on the expenditures of public funds: "The government may give seeds to farmers, but may not condition the gift upon their being planted in places where they are most needed or even planted at all. The government may give money to the unemployed, but may not ask that those who get it shall give labor in return, or even use it to support their families. . . . It may spend its money for the suppression of the boll weevil, but may not compensate the farmers for suspending the growth of cotton in the infected areas. It may aid state reforestation and forest fire prevention agencies, 43 Stat. 653, but may not be permitted to supervise their conduct. It may support rural schools, 39 Stat. 929, 45 Stat. 1151, 48 Stat. 792, but may not condition its grant by the requirement that certain standards be maintained. . . . Do all its activities collapse because, in order to effect the permissible purpose, in myriad ways the money is paid out upon terms and conditions which influence action of the recipients within the states, which Congress cannot command? The answer would seem plain. If the expenditure is for a national public purpose, that purpose would not be thwarted because payment is on condition which will advance that purpose."[16]

The difficulty of determining the benefits and apportioning the costs of public works on private lands between landowners and society and the possibility that such works may not always be carried out in a manner that will result in the protection of the public interest demand that adequate institutional arrangements or devices be established to assure that the public benefits contemplated will actually be achieved. "It is always important that federal aid be accompanied by adequate arrangements for assuring continued action in the public interest; but it is especially important in the situations in which the Federal Government assumes an exceptionally large responsibility for bearing the costs."[17]

The absence of an appropriate land policy and protective arrangements is a limiting factor in assuring judicious public expenditures on private land. If programs do not provide for the maturity of public investments and the receipt of expected benefits by the public, such investments should not be made. To follow such a policy would do more harm than good in that the public would very

[16] Ibid.

[17] Public Works and Rural Land Use, Report of the Land Committee of the NRPB, Washington, D. C., Sept. 1942, p. 13.

likely react unfavorably, thus setting back for years the achievement of the desired objectives. It is not uncommon for worthwhile public undertakings to experience unnecessary setbacks because of unfavorable public reaction to the way that a program is conducted.

In carrying out work on private lands for conservation and development purposes, for example, the conditions that might be required before making public funds available could include: (1) that work be confined to economic operating units or on units that can be made economic unless it is necessary to work on noneconomic operating units in order to protect community values; (2) that a certain part of the cost be borne by farmers or landowners; (3) that the amount spent on any one project be limited; and (4) that work done must meet the approval or be in line with requirements set forth by Federal, State, or district governments.

Several specific measures or arrangements that may be drawn upon to protect the public interest in connection with public works on private lands are outlined in the following paragraphs.

Public Purchase and Condemnation

If the public interest is sufficiently strong and if the public purpose cannot be satisfactorily achieved through private ownership, the government may purchase the land upon which the improvements are to be effected. For such action, numerous precedents exist in the building of roads, military establishments, post offices, and other public improvements. This procedure has also been used in connection with recreational and forest improvements. It is permitted but not yet extensively used in the fields of rural housing, soil conservation and land development.

If something less than full ownership is deemed desirable, the government may obtain only part of the rights in lands through acquiring an easement or lease for specific uses. If this cannot be done by direct negotiation, the power of eminent domain may be used. In order to exercise the power of condemnation to acquire land or rights in land, the use must be for a "public purpose," "due process" of law must be used, and "just compensation" must be provided the landowner.

Tax and Police Powers

The tax and police powers possessed by district organizations and other *ad hoc* as well as ordinary governmental units may be used to protect public expenditures. The use of these powers in the conservation and grazing district, for example, can serve to guar-

antee that the public interest will be protected. If, however, these powers have not been established prior to the need for large-scale public works, it is doubtful that they may be effected in time to be of much assistance in a current program of short duration.

Under the police power, States or local units of government may regulate individual conduct and the use of private property in the interest of public welfare. On private lands, for instance, local units of government may designate land use practices to be followed on land subject to serious erosion, or settlement practices may be prescribed in areas that are not adapted to crop production. The effectiveness of the regulations will depend upon the acquaintance of the people with them and their willingness to use them. At the present time the use of police power in rural areas has been mainly limited to prohibiting the use and occupancy of land. A number of counties in the Lake States have passed rural zoning ordinances to prevent excessive costs of schools and roads arising from isolated settlements and to direct land to the uses to which it is best adapted. The soil conservation districts have the power to pass similar regulations for the protection of land that is subject to serious erosion. So far, however, less than a score of districts have seen fit to adopt regulations and those which have been adopted deal mostly with controls over the management and protection of grazing lands in the Plains States.

When lands are terraced or contoured, certain farming practices should be followed. If they are not, the benefits of the erosion-control devices are soon lost. Regulations requiring certain practices would be positive in nature in contrast with the prohibitive type of zoning regulations now in effect in about 30 counties in Wisconsin, Minnesota, and Michigan. It is realized that this type of control is more difficult to adopt and enforce than a prohibitive or negative type of regulation. A rather extensive works program on private lands might serve as an inducement for local farmers to vote regulations upon themselves. It seems evident that police power regulations ought to be an integral part of an extended program of work on private land.

As a part of police power regulations or as separate from them, concessions might be made in the form of a reduction in the tax rate on certain lands following approved conservation practices; for instance, steep land having a slope of 20 percent or greater might be exempted from taxation or subjected to a very low rate provided it were kept in grass or trees.

The net effect of a reduction in the tax rate on particular pieces of property on the total tax burden would depend upon the extent to which local governmental costs are borne by local taxes and whether or not the reduced revenue from the tax-exempted property were shifted to other lands in the same taxing district. Tax adjustments or concessions to be most effective ought to be an integral part of a land program. Under certain circumstances, the State and Federal Governments might make special grants to local units of government to offset reduction in local tax revenue. This may result in more conservation work than if such works were carried on directly under the sponsorship of the State or Federal Government.

The Spending Power

The spending power of the Federal Government or the "power of the purse," in the language of Justice Stone, is one of the most effective and widespread methods of accomplishing acts in the public interest. The purposes for which public funds may be spent have never been well defined. They have varied widely from time to time and from instance to instance. Historically, public funds have not only been used for bounties and pensions but also as specific grants to the afflicted in times of disaster. The usual legal criterion is that public funds raised by taxation must be spent for a public purpose. However, as indicated earlier, the courts have never been successful in making a precise or clear-cut distinction be-between public and private purpose. During the early years of the program, the W P A was not permitted to spend money conserving private lands. Later on, the law permitted W P A to perform conservation work on private land provided it were carried out under the auspices of a soil conservation district. But at the same time the Agricultural Conservation Program made conservation expenditures on private land subject only to evidence of completed work.

Loans and credit. The spending power may be manifested in loans to individuals as well as through public works. The use of loans is particularly adapted to rural housing, rural electrification and farmers' markets where the project is carried out by individuals or groups, where the incidence of benefit is largely upon the individuals, and where part or all of the cost of the improvement will be paid back to the government. The lending of funds at low-interest, long-term credit may constitute one of the most effective catalyzers

and a worth-while means of expanding employment throughout the country. The conditions of the loans and the amount of funds made available can be readily related to the need for jobs. The amount of public subsidy in these loans might well correspond with the degree of public interest which can be demonstrated.

Public projects. Under this arrangement the government supervises and carries out projects on private land. The use of the CCC and, after 1939, the use of WPA labor are examples of this arrangement. The individual landowner does not deal with the laborers who are directly responsible to the sponsoring government agency. The sponsoring agency assumes responsibility for the public funds and negotiates agreements with the landowners for implementing safeguards of public interest.

Improvement payments. This arrangement consists of the Federal Government's making payments to individuals for improvements affected with a public interest under the provision that individuals perform certain acts or services in line with prescribed conditions necessary to safeguarding the public interest. The "production practice" payments used by the Agricultural Conservation Program supply a precedent as well as a storehouse of rich experiences for future arrangements of this type.

". . . *The offer of public assistance to individual farmers through conservation payments provides an excellent means* whereby conservation work needed on individual farms in order to prevent losses to our national land resources can be carried out in large volume within a reasonable length of time.

"This offer to individual farmers directs and uses individual farmer's initiative, labor, power and other resources in carrying out those practices which will help to solve many of the conservation problems in a program which is national in scope. The AAA technique of direct payments of public funds to individual farmers has influenced more farmers to introduce conservation farming on the land than any other system yet devised.

"Another important advantage of the offer of payments to individual farmers who perform conservation work is that the funds are not spent until the conservation work is actually carried out on the land. The individual farmer must perform a particular practice before the public assistance is expended. The public therefore has assurance that the funds are not expended without conservation work being performed on the land.

" . . . The individual who goes over his fields and pastures several times every year is more familiar with conditions on his farm than anyone else. Each farmer must plan the operations on his own farm. However the few practices which require the services of engineers and the use of large construction equipment which farmers do not have can either be hired by them or furnished through local or national government agencies. The conservation job will not be adequately performed until each farmer is carrying out the major responsibility for conservation practices needed to prevent unnecessary erosion on his land."[18]

The practices and improvements for which payments are made are limited to those recommended by the State AAA Committee working in close connection with the State Agricultural Experiment Station, the Extension Service, the Soil Conservation Service and other agricultural agencies. Considerable latitude is given to local farmer committeemen in determining specifications for practices and the size of payments farmers can earn. In determining the items for which payments may be earned, routine practices and those which would be carried out in desired volume without payments are not considered eligible. The actual determination of payment rates is based largely upon (1) the estimated average cost of performing the practices and (2) the relative need for the practice and the farmer's familiarity with it.[19]

For the past few years emphasis has been given to those places that would save and improve the soil, make possible the best use of water supplies, increase range and pasture forage, prevent land and water erosion. The 1942 records show that payments were made for the application of almost 19 million tons of limestone, over one million tons of 20 percent superphosphate, construction of almost 44 million cubic yards of dams and reservoirs for stock waters, and the planting of over 60,000 acres of trees, among other things. All of these types of improvements are badly needed and furnish considerable employment. They are the kinds of improvements which may provide some of our most worth-while public works if threatened unemployment again requires the large-scale provision of public jobs. Through these means desirable land use

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[18] Jordre, Roy J., "Effectiveness of an Agricultural Conservation Program Which Offers Assistance in Conservation to All Farmers," Conservation Programs Branch, OP, mimeo. Feb. 12, 1944.

[19] For a more complete statement of the manner in which these practices are determined, see Report of the Chief of the Agricultural Adjustment Agency, War Food Administration, USDA, 1943, particularly p. 8.

shifts, practices and improvements can be achieved with a minimum of group conflict and individual sacrifice.

This arrangement of making payments to individual farmers need not be limited to so-called "production practices." It can well be extended to certain "living practices" affected with an equally great or greater public interest, e.g., sanitation and health improvements. The screening of houses in malaria areas, the provision of sewage disposal and the provision of pure drinking water would appear to involve as much or more public welfare than the production practices.

This method offers a tremendous possibility of achieving numerous improvements on private lands. It may also be used as a means for opening up an enormous field of work for rural people who may be unable to find needed jobs. This arrangement may be varied to enable farmers who are on relief to work out payments by performing certain acts on their own land which will be affected with a public interest; for example, soil conservation, forestry improvement, or sanitation projects. It may also be varied to provide farmers with funds for making specific improvements on their own lands in the interest of public welfare, provided that these individuals hire people who are registered with the local U. S. Employment Service as being unable to find work. Payments could be varied with the severity of unemployment. For instance, during any period of widespread unemployment, these expenditures may be accelerated, but as private enterprise is able to re-employ labor, payments may be retarded. This arrangement is sufficiently flexible to meet various situations in local areas depending upon the severity of unemployment and the need for public aid in improving the rural society.

Preventing and Recouping "Windfall Benefits"

Continual care must be exercised in seeing that individuals do not receive large windfall benefits from public expenditures. Wherever possible, such benefits should be prevented and made to accrue to the public. Where this is not possible, arrangements to capture such benefits and return them to the public should be given serious consideration.

Purchase of easements, options, and titles is one of the preventive methods. If the public obtains an easement, option or title to the land which will be benefited by the public expenditure before such expenditure is made, the public can "squeeze out" the benefit

and return the land to private ownership and control minus the windfall gain.

Special benefit assessments for specific benefits arising from roads, irrigation, drainage and other types of public expenditures may be made to bring the benefits back under public control. This arrangement may be used where it is not feasible to acquire an easement, option, or title to the land. Taxes on excess gains may also be used to recapture benefits which result from public expenditures but which accrue to individuals.

Summary

Experiences with public works during the past 10 years as well as consideration of future public works clearly indicate that some of the most worth-while work opportunities are located upon private land. The prohibition against public works on private lands inflicts a limitation on future public works activities which not only handicaps the function of public works programs as a "balance wheel" in the economy but also impairs the worthwhileness of projects which may be undertaken. Experiences of the past 10 years, however, indicate that extreme caution must be exercised that private individuals and groups do not use public funds for selfish advancement and gain.

As a protection against selfish gains and windfall profits accruing to private landowners, future projects on private lands should not be undertaken until (1) a substantial public interest is demonstrated; (2) arrangements are made to share costs in relation to benefits received, qualified by ability to pay; (3) landowners demonstrate that they have the will to do what the project seeks to attain; (4) landowners back up their good faith with agreements to make material contributions to the project; and (5) responsible assurance is guaranteed as to completion and maintenance of the project.

To implement these elements of a policy regarding public works on private land, the government should (1) obtain ownership, lease or easement controls over land where sufficient public interest is at stake; (2) use the tax and police powers to protect the public interest; (3) use the spending power through (a) loans, (b) public projects and (c) improvement payments, all adequately protected by effective measures; and (4) prevent and recoup windfall benefits accruing to private landowners as an incidence of the public expenditures.

HOW LONG DOES IT TAKE TO PAY FOR A FARM STARTING WITH HEAVY DEBTS?

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THERE has been, for many years, an active interest in plans for helping worthy individuals to acquire farms upon the basis of a small down payment. Recently, this interest has been greatly stimulated by numerous suggestions for aiding returning veterans to buy farms under "easy" credit arrangements. As a contribution to the discussion, data are presented for 11 farmers in the Southeast Minnesota Farm Management Service who, in cooperation with the University of Minnesota, kept records of farm receipts and expenses and also of household and other family expenses for the 13 year period, 1931–1943 inclusive. Each farmer has operated the same land in each of these 13 years. The average number of farmers in the Southeast Farm Management Service was 153 per year, but in only 11 cases are there records of continuous operation for the 13 year period by the same farmer on the same land.

These farms are located in Dodge, Freeborn, Goodhue, LeSueur, Rice, Steele and Waseca counties. All except two of the farms varied in area between 160 and 200 acres. One of the two remaining farms was 80 acres in area and the other was 106 acres. The average area of the 11 farms was 169 acres, the average value of the land and buildings was $14,483 or $86 per acre, and the average investment in livestock and machinery was $4,754. Under the assumed conditions hereinafter stated, the debt on the real estate was $10,862, and the non-real estate debt was $1,902, a total debt of $12,764 or $76 per acre. Most of these farms have buildings and other improvements that are superior to the average of their localities.

Calculations were made as to the number of years that it would take to pay off debts equal to 40% of the inventory value as of January 1, 1931, of the livestock and machinery, plus a debt equal to 75% of the reasonable sale value of the farm real estate as of the same date. The interest rate on the non-real estate debt was assumed to be 7% from January 1, 1931 to December 31, 1934, and

for the remaining years, it was assumed to be 6%. The interest rate on the real estate mortgage was assumed to be 5% throughout the whole period. It is believed that these are the approximate average interest rates prevailing through the period.

In the calculations, it was assumed that all earnings available for debt servicing were applied in the following order:

First, on interest on personal property
Second, on interest on the real estate mortgage
Third, in reducing principal owing on personal property
Fourth, in reducing principal owing on real estate

In any year in which available earnings were not equal to the interest, the deficiency was added to the principal.

The detailed calculations for farmer no. 8 are given in Table 1 and illustrate the method used. In this case, the assumed debt on real estate on January 1, 1931 was $7,500 and the assumed non-real estate debt was $1,756, a total of $9,256. On December 31, 1940, the remaining debt would have been $7,938 and on December 31, 1943, it would have been $6,093.

TABLE 1. DETAILED CALCULATIONS IN CASE OF FARMER NO. 8

Year	Net cash income	Household and personal expenses	Income available for debt servicing	Interest payment	Principal payment
1931	$1,759	$ 960	$ 799	$498	$301
1932	2,173	717	1,456	477	979
1933	434	612	*— 178	408	*—586
1934	1,735	887	848	437	411
1935	1,457	1,019	438	408	30
1936	1,875	997	878	406	472
1937	847	916	*— 69	382	*—451
1938	1,459	925	534	405	129
1939	1,202	841	361	399	*— 38
1940	1,556	1,085	471	400	71
1941	2,380	1,433	947	397	550
1942	3,039	1,781	1,258	369	889
1943	2,689	1,958	731	325	406

* Minus sign indicates deficit.

The progress in debt payment that each of these farmers could have made is shown in Table 2 and Figure 1. The average amount that would have been paid to December 31, 1940 was $2,838 or 22% of the total debt. This amounts to paying the non-real estate debt of $1,902 and applying $936 or 9% of the original amount of

$10,862 on the principal of the real estate debt. One farmer would have paid the debt in full, four would have paid 25% to 50%, three would have paid 12% to 14%, and three of the farmers would have had a debt greater on December 31, 1940 than at the beginning, by 1% to 24%.

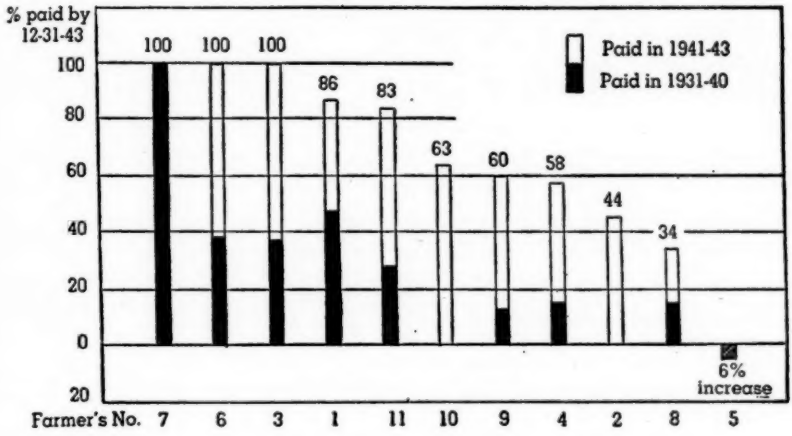

Fig. 1. Percentage of total real estate and chattel debt paid on December 31, 1943, under assumed conditions.

With the coming of the war, the rate of payment could have been greatly accelerated. During the three year period, January 1, 1941 to December 31, 1943, the average repayment would have been 40% of the principal, and, leaving out of account no. 7 who would have already paid in full, each one of the 10 remaining individuals would have been able to pay 18% to 64% of the principal. This was a period in which war prices, excellent crop yields and a lagging rise of expense items combined to give incomes such as had not been approached by Minnesota farmers since the World War I period. Figure 1 gives graphically for each farm the proportion of the debt that could have been paid prior to 1941 and in the 1941–1943 period.

It is also important to note that each farmer except no. 7 would have had one to eight years when he could not have met his interest obligations in full. Five of the 11 would have had one to three years in which no payments could have been made on interest. Four of the 11 would have had three years of consecutive delin-

TABLE 2. AMOUNT OF ORIGINAL DEBT ON JANUARY 1, 1931, AMOUNT OF PRINCIPAL PAID, JANUARY 1, 1931 TO DECEMBER 31, 1940; JANUARY 1, 1941 TO DECEMBER 31, 1943, AMOUNT OF PRINCIPAL UNPAID ON DECEMBER 31, 1943—AND THE SAME ITEMS AS A PERCENTAGE OF THE ORIGINAL DEBT ON JANUARY 1, 1931

Arranged on basis of percentage paid, January 1, 1931 to December 31, 1940

Number of farmer	Original debt 1-1-31	Principal paid		Amount unpaid 12-31-43	Percentage paid		% unpaid 12-31-43
		1-1-31 to 12-31-40	1-1-41 to 12-31-43		1-1-31 to 12-31-40	1-1-41 to 12-31-43	
7	$13,353	$13,353	0	0	100%	0%	0%
1	8,731	4,103	$3,412	$1,216	47	39	14
6	13,309	5,224	8,085	0	39	61	0
3	9,210	3,509	5,701	0	38	62	0
11	19,482	5,425	10,669	3,388	28	55	17
4	12,616	1,738	5,572	5,306	14	44	42
8	9,256	1,318	1,845	6,093	14	20	66
9	13,745	1,626	3,862	8,257	12	28	60
10	13,979	*— 104	8,967	5,116	*— 1	64	37
2	8,333	*— 540	4,198	4,675	*— 6	50	56
5	18,384	*—4,436	3,375	19,445	*—24	18	106
Average	$12,764	$ 2,838	$5,063	$4,863	22%	40%	38%

* Minus sign indicates an increase in the debt.

TABLE 3. YEARS IN WHICH EACH FARMER WOULD HAVE BEEN EITHER UNABLE TO PAY ANY INTEREST OR IN WHICH ONLY A PORTION OF THE INTEREST COULD HAVE BEEN PAID

	Number of farmer									
	1	2	3	4	5	6	8	9	10	11
1931		x		x	ⓧ	x			x	
1932	x	x	ⓧ	x	x	x		x	ⓧ	x
1933	x	x		x	x		ⓧ	x	x	
1934					x			x		
1935		x		x					x	
1936										
1937		ⓧ		x	ⓧ		ⓧ			
1938		x			ⓧ			x		
1939				x	x		x		x	
1940									x	
1941			x		x				x	
1942										
1943										
Total years of consecutive delinquency	2	3	0	3	4	2	0	3	3	0
Total years delinquent	2	6	2	6	8	2	3	4	7	1

ⓧ Nothing available for interest.
x Not able to pay interest in full.

quency and one would have had four years of consecutive delinquency. Table 3.

In general, when a farmer has three or more consecutive years in which he cannot meet interest obligations, he becomes thoroughly discouraged and is likely to quit the struggle. Even if the farmer does not become discouraged, his creditors, especially short term creditors, are quite apt to be insistent on the sale of sufficient security so that some reduction may be made in the debtor's obligations. Thus, the result of a period of inability to meet interest on short term debts is usually an auction and a new farm operator. It seems likely that even with a very lenient creditor, five of the 11 would have either lost all or a substantial part of their equities.

As actually most of these farmers were not burdened with heavy debts, it may be argued that if they had been heavily in debt, that less would have been spent on household and family expenses. This may be true to a limited extent but so far as the authors have observed, the household expenses of most of these families were kept near to the minimum for health and efficiency.

The importance of the amount of debt is illustrated by the fact that if these 11 farmers had started in 1931 with no debts except a real estate mortgage equal to 50% of the value of the real estate, by December 31, 1940, under the assumed conditions, four would have paid the debt in full, six others would have paid 49% to 97% of their debt and the eleventh would have reduced the debt by only 2%. Only three of the 11 would have had two or more years in which interest obligations could not have been met in full.

Figure 2 tells the story as regards progress that could have been made in paying a chattel mortgage under the assumed conditions. Of the 11 farmers, six could have maintained interest on the real estate mortgage and completed payment of the chattel mortgage in four to six years, while the remaining five would have required seven to over 12 years to pay off a chattel mortgage equal to 40% of the value of the livestock and machinery. At the same time, they could have paid interest on a 75% real estate mortgage. The one individual who took 12 years ended the 13 year period with an assumed real estate debt which was 6% greater than on January 1, 1931.

It may be suggested that the 1930's were a period of agricultural depression, and then, there were the great droughts of 1933, 1934 and 1936. It is true that the situation in the 1930's was not alto-

gether a happy one for farmers. But, in the past, it has been normal for difficulties to confront farmers, and this will likely be true in the future. Prices were very low in 1931, 1932 and 1933, but this was partly compensated for by lower inventory values on both real estate and personal property on January 1, 1931 when the records were started. These lower inventory values gave a lower assumed debt by about 25% than if the records were started in 1929 or

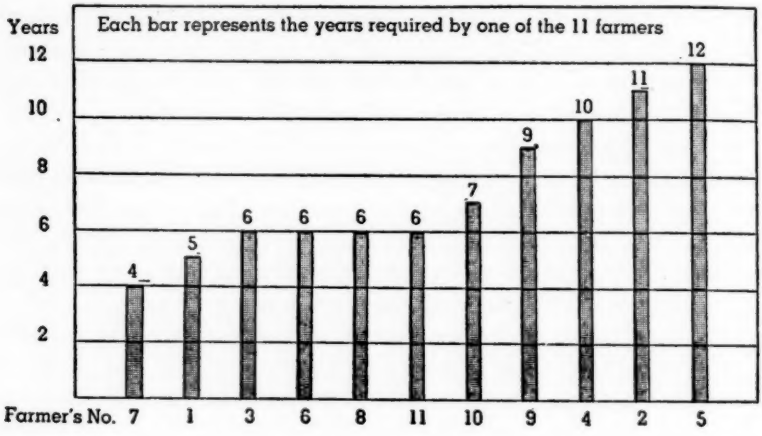

FIG. 2. YEARS TO PAY CHATTEL MORTGAGE EQUAL TO 40 PERCENT OF VALUE OF THE LIVESTOCK AND MACHINERY INVESTMENT WHEN REAL ESTATE MORTGAGE IS 75 PERCENT OF THE VALUE OF REAL ESTATE.

earlier years. Then, in the particular area in which these farms are located, the droughts of 1934 and 1936 brought the advantage of increased prices which more than compensated for the reduced production. Yields were sufficiently high so that no substantial amount of reduction in livestock numbers was necessary. Neither were there any marked increases in purchases of feed.

It is the opinion of the authors that there are few areas in the United States in which the variations in production from one year to another are less than in this area. In nearly every case, the particular farms are well above average for their locality in quality of soil and improvements. It is believed that the neighbors of each of these farmers would rate them as well above the average in ability. Each one of the 11 was in the prime of life in 1931, in good health, and had excellent personal habits. Furthermore, these individuals had a great advantage over one who was purchasing and starting to

farm in that they had a going concern. They were living on farms upon which they had either been reared or which they had occupied for a number of years.

When one buys a farm, he usually experiences some disappointments. He may find that it is less desirable than he thought; perhaps the drainage isn't as good as it appeared in a dry time, the fields have more stone, the soil is less fertile, there is more weed infestation, or perhaps the buildings are not as satisfactory as they seemed when he was under the spell of the real estate salesman. All of these risks are avoided when one is considering a farm upon which he has lived for a number of years. Furthermore, by trial and error, the operator has worked out a farming system that is better adapted to the particular farm than a new operator can do except by making a few costly mistakes of his own. It all adds up to the fact that these operators, under the assumed conditions, were in a much better position to make financial progress than would be the average purchaser of a farm in the same region.

It is important to note that these farmers might safely carry a much larger debt burden with the same average income, provided there was little variability in the amount of the income from year to year.

Those eight with mortgages which were not paid in full by the end of the 13 year period would have had 30% less debt at the end of 1943 with the same income uniformly distributed over the 13 year period. The three who paid all of the debts during the 13 year period could have done so in two or three years less than was required with the income distributed over the years as it actually was. Farmer no. 5 who had a 6% larger debt at the end of the 13 years than at the beginning would have made some progress in debt payment if his aggregate income had been the same for the period but of equal amount in each year.

The variability of the year to year income available for debt servicing is illustrated by the fact that for the 13 year period for each individual farmer, the average deviation from the mean of that farmer was 60%. The lowest deviation for any one farmer was 36% and the highest average variation was 92%.

The reason why greater financial progress would result from uniform annual income for debt servicing is largely the fact that the income was relatively low during the early years and uniformly high during the last three. This resulted in a large amount of inter-

est accumulations on delinquent interest during the early years. Although the difference in this case was rather extreme in that the early thirties were years of extreme price depression and war prices characterized the latter years, lower income during the earlier years would normally be expected in case the debtor was setting up a new farm business. It takes some time even for an experienced operator to become familiar with a new farm so that he may handle it to best advantage. If he is starting farming for the first time, it takes time to gain experience and to select and develop productive livestock. Many purchasers are handicapped at the start with inadequate working capital. With a constant price level, one would normally expect that the purchaser of a farm would have less income available annually for debt servicing the first few years than he would have after several years of experience on the farm. The higher interest rate on a chattel mortgage also slows up financial progress during the earlier years when the chattel mortgage is being paid off. Later, a larger proportion of the annual payment may be allocated to the liquidation of the principal.

A flexible payment plan to permit the mortgagor to vary his annual payments in line with fluctuations in his income available for debt servicing has been suggested as a desirable substitute for the usual fixed annual payments. But this study does not lend much support to such a plan, especially when one considers that any such plan calls for about the same extra expense for servicing as does a distress loan. This extra expense would come either from a higher interest rate to borrowers or possibly in the case of public agencies might come from all of the taxpayers in the form of subsidies. As already mentioned, the income for debt servicing is likely to be less during the earlier years when interest charges are high and the risk is great. High and low income years are rather unevenly distributed and several low income years are likely to occur in succession. In 60% of the farm years studied, the income available for debt servicing was below the average of the 13 year period. In only 7% of these cases was a low income followed by an above average income the next year. In 7% of the cases, there were two low income years in succession; in 14%, three low income years; in 19%, four low income years; in 46%, five low income years, and in 7%, six low income years occurred in succession. A low income year is defined as one in which the income available for debt servicing is less than the average of that same farm for the 13 year period. Merely delaying

payments during a period of low income would not expedite financial progress for the mortgagor. It merely means that the mortgagee would accumulate the charges that would eventually have to be met. It is also highly questionable as to whether any lending agency would be willing to accept less than the regular interest payments for four to six successive years, especially if they occurred during the early part of the period before the principal of the loan had been substantially reduced.

One plan of adjustment of payments to meet the variability of the farmer's income available for debt servicing has been adopted recently by some farm loan agencies. This involves making special payments in years of higher than average income to serve as a reserve in years when income is insufficient to meet the annual payments. Insofar as there are a number of high income years in the early period of the loan, this may prove quite satisfactory. In general, as already pointed out, the first years are more likely to be characterized by low incomes and insofar as that is so, the variable payment plan offers little relief.

The slower financial progress of farm borrowers resulting from year-to-year variations in income available for debt servicing should be given careful consideration in appraising a farm and determining the amount that may be loaned without overburdening the borrower. Any calculations based on the assumption of uniform annual income, even if the average annual income is accurately forecast, is likely to be over-optimistic. Regularity of income is a close second to amount of income as a factor of importance in determining the safe mortgage load that a given farm and farmer may carry.

Upon the whole, the experience of these 11 families over a 13 year period suggests that it will be no kindness to veterans to set them up in farming with a heavy debt burden, especially if the prices of both land and farm chattels are at a high level in the early post-war period. In many cases, a rental arrangement would be preferable to assuming a heavy real estate obligation.

In this connection, it may be recalled that many of the fathers of the veterans of World War II, upon their return from World War I, started farming upon the basis of a liberal amount of borrowed money. The results were most unfortunate. Some of the grandfathers of the present veterans had a similar unhappy experience after the Civil War and history records that English farmers had similar unfortunate experiences after the Napoleonic wars.

NEED FOR A NEW CLASSIFICATION OF FARMS

M. R. Benedict H. R. Tolley
F. F. Elliott Conrad Taeuber

THE Census early began to record numbers of farms and to classify them in various ways. Since then almost every enumeration has added to the number and kinds of classifications made. In recent censuses farms are classified by size, by tenure, by value of products, by type, by amounts of work done off the farm, and in many other ways. In addition, various classifications have been developed and used by other public agencies, particularly by the Department of Agriculture.

Early classifications in the census were by size, by tenure, by race, and by a few other categories, and were designed to present an over-all picture of the nation's agriculture. In these first efforts at classification there was no very definite thought of adapting the data (on agriculture) to specific end uses.[1] The purpose was a general contribution to knowledge. After the turn of the century, and especially after 1920, census data on agriculture came to be used in more specific ways, and the demand for additional information and for more refined classifications grew rapidly. Such demands were increased markedly after 1920 by the rapidly developing programs of research on the economic and social problems of agriculture, and after 1930 by the numerous and complex action programs undertaken by the Government. That a serious attempt was made to meet these demands is reflected in the numerous groupings and cross-classifications made by the Census at the present time.

Purposes to Be Served

Despite these many and varied ways in which the farms of the nation are classified, there are still many purposes to be served which present classifications do not meet. This has become increasingly evident since the early years of the Great Depression when the planning and administration of the numerous government programs to aid farmers were undertaken. The need for certain additional types of grouping has become even more clear during

[1] The original and basic purpose of the Census was, of course, a count of people to be used in the apportionment of Congressional representation. Other types of inquiry were added from time to time as a means of providing general information covering the manufacturing, mining, agricultural, and other activities of the nation's population.

the war period when an attempt has been made to find by what means and on what farms efforts toward maximizing production could be most effectively applied.[2]

The limitations of existing classifications show up most prominently when an attempt is made to deal with many of the economic and social problems relating to farms and farm people. Inadequacies are particularly significant, for example, in showing the scale of operations and the relative significance of the different producing groups in the total picture. The classifications are also inadequate for determining the location, composition, and productivity of the agricultural working force, and in portraying the economic and social status of the operators and family members of the different producer groups. On the other hand it may be that some of the breakdowns now presented are more detailed than are needed for uses that are of real significance.

What is particularly needed is a segregation of farms into a few simple, distinct, and clearly recognizable classes, and a tabulation for each of these classes of such data as are needed for recognizing and understanding the problems related to them. The additional classifications set up should be clear to both lay and technical users, and should be acceptable to them and to farm leaders, legislators and administrators as reflecting realistic major groupings suitable for use in planning, legislating, and administering programs relating to agriculture. This means, of course, that the criteria chosen should, so far as possible, distinguish farms on the basis of significant differences in interests, characteristics, and behavior under varying conditions.

As the country moves from war conditions to those of the postwar years, it will be found that the interests and problems of the different classes of farmers will differ markedly. Commodity loans, price-support programs, and similar measures will be of great interest and importance to the operators of large-scale and family-commercial farms. Such programs are likely to be of small concern, however, to the operators of small farms, who consume most of what they grow. For farmers of this kind, programs for medical service, old age and survivors' insurance, or even those involving establishment of minimum wages may be of much greater signifi-

[2] Some of these changes in emphasis during the 1390's are more fully discussed in an article by M. R. Benedict, "Agricultural Statistics Viewed in the Light of a Changing Program," this JOURNAL, Vol. XVI, No. 3, July, 1934.

cance than anything that can be done in regard to prices or over-all programs of production.

From the standpoint of the non-farm public, on the other hand, major concern may be with the volume and kind of output, ways of maintaining farm purchasing power, and similar matters. For these purposes interest may center on those classes of farms which produce on a large enough scale so that adjustments made will have a significant effect on the total amounts produced, the general level of business activity, and so on.

The interest of the public official and legislator will be even broader. In considering national programs, whether they are for maintaining prices, improving incomes of low-income groups, adjusting production, rebuilding soils, or facilitating ownership, primary concern will be with the problems and needs of the different groups and the probable effects and equitableness of such programs.

In the forthcoming Census it seems important, therefore, that steps be taken to segregate these different classes of farms—see how many there are in each class, find where they are located, and see how significant each class is in the total picture. With the farms of the nations grouped in this way, we could begin to think more effectively in terms of the problems and interests of the farmers operating each kind of farm, rather than in terms of some nebulous, intangible "average farm" that does not exist. Furthermore, Congress, the public, the non-farm groups, and the farm organizations would be in a position to judge much more accurately than they now can the specific needs of these different farm groups, and to develop programs to fit them in a much more realistic way than has been done in the past.

Selecting a Basis of Classification

Obviously such classifications will have to be chosen somewhat arbitrarily. Except for certain groupings which have resulted from the homesteading of quarter sections, or multiples of them, there are no very clear lines of demarcation between groups. The basis of classification suggested in later pages reflects the tentative judgment of the authors as to breaking points that mark reasonable separations between farm groups that have fairly distinct characteristics and interests. These suggestions are put forward now to invite the critical comment of readers of the JOURNAL in the hope that reasonable agreement can be reached in time for use in tabulation of the 1945 Census.

It seems appropriate, before describing the new classifications proposed, to discuss briefly the principles underlying the proposals made.

A classification of data is significant only in relation to some purpose for which it is to be used. Such a purpose may be very broad and general or very specific. A brief survey of the complex programs of data collection carried on by the Bureau of the Census and the Bureau of Agricultural Economics will convince the most casual student that the uses to be made of the data are many and that no single simple classification can serve all purposes. With possibly a very few exceptions, the classifications here proposed should not be in lieu of, but in addition to those now provided. Other broad classifications have been proposed or are under study. The classification proposed deals only with farms and their operators. It does not attempt to give a classification of all families living on farms including farm laborers. The emphasis here is on broad groupings to clarify and refine the generalizations so often made on the basis of averages for all farms in the United States.

The Census of 1940 presents data for 6,096,799 farms. Included in this number are farms of many different kinds operated under a wide variety of conditions. It includes cropper units, plantations and farms, in the South, highly productive corn and livestock farms in the Middle West, cattle and sheep ranches in the Plains and Mountain States, large specialty ranches in the West, and rural homes, subsistence units, and part-time farms in various parts of the country.

With so much diversity among farms the averages for all farms are of little significance. Such items as average income per farm and per farmer as commonly presented include hundreds of thousands of units which do not accord with the concept of a farm which is in the minds of most of the people using these data. Data are included for thousands of farmers who have retired to small acreages; for many suburban estates owned by men of large income whose contribution to agricultural income is nevertheless insignificant; likewise for hundreds of thousands of croppers who are in most respects wage laborers paid in kind. Yet the concept in the mind of the user of such data more often than not is that of a fairly substantial commercial farm such as is common through the great crop-producing areas of the country. Publicists write and talk about problems of the farmer, and ways of meeting them, as though these six million farms were alike in their conditions, outlook, and the problems

confronting them. National legislation affecting farms is passed and often applies more or less uniformly to all sections of the country. Such legislation may create added problems for some, give unwarranted advantages to others, and fail to create a well-ordered and realistic farm program. It is a blunderbuss approach aimed at a very mixed conglomeration of targets.

Although reference has been made above to classifications designed for specific uses, a scientific approach to farm classification should not be in terms of specific reform programs; instead it should be designed with a view to segregating groups of farms or farmers that are somewhat alike in their characteristics and that tend to have similar problems. The purpose is, of course, to have a more accurate and realistic description of each group. This statement may appear inconsistent with the one made above to the effect that a classification of data must be in relation to the purposes for which it is to be used. The two ideas, however, are not necessarily in conflict. The efforts of the Bureau of the Census for decades have been in the direction of providing classifications on such a variety of bases that its groupings would be usable for a great many types of analyses and administrative programs. The proposals here outlined do not involve a change in that basic purpose. They are designed rather to suggest certain broader groupings which will be simple enough to appeal to the non-technical user of census data and also to carry classifications somewhat further into the realm of groupings needed in dealing with the human problems of agriculture. There is a growing interest in this type of problem as compared to the purely physical aspects of agricultural production and resources. The objection to devising census classifications primarily in terms of specific programs is that the programs change from time to time whereas a major factor in the usefulness of census data is the possibility of making comparisons from period to period and tracing broad basic changes in the agriculture of the nation.

It is evident that an ideal approach to the various problems touched upon above would call for a great number of classes of farms and farmers. Practically, however, broad general discussions of farm problems cannot be carried on in this detailed way nor can legislation be provided in terms of a great variety of special conditions. Some sort of compromise must therefore be made between the ideal of a highly detailed and realistic grouping and the very broad classifications which are now so generally used in public dis-

cussion and Congressional action. The best hope is that some progress can be made toward a more practical classification with the thought that this may eventually be somewhat further refined.

In attempting to develop a farm classification designed to be usable in analyzing the social problems of farmers, a question immediately arises as to the basis for such a classification. A first rough approach appears to be in terms of size of operations. Size in terms of acreage is so obviously unsuitable that we turn immediately to other possibilities. The principal choice of criteria seems to be either inputs or outputs. Probably a classification in terms of inputs as measured by amounts of labor used, expenditures, or both would be the most satisfactory if it could be handled practically. Actually, however, the gross value of products seems to be the most usable criterion and one that could be handled in tabulations with less disturbance to established census practices.[3]

A second consideration is that of trying to find logical breaking

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[3] Many tabulations of farms by type have been made at various times, among them the early studies by W. J. Spillman and the much more comprehensive tabulations worked out by F. F. Elliott in connection with the Census of 1930 and published in the monograph, "Types of Farming in the United States," Bureau of the Census, 1933.

These tabulations were not intended to serve the same purpose as those here discussed. Their purpose was to describe the structure of the agriculture in various areas of the country. They did not seek to segregate social groupings nor to set up broad generalized classifications. The uses contemplated were in the main:

1. To give the reader a general picture of the localization of types of production and of given combinations of enterprises.
2. To aid researchers in farm management in locating their studies, selecting their samples, and appraising their results.
3. To provide extension workers and researchers with a better basis for determining areas to which given studies would be applicable.
4. To aid in studies of probable supply response.

At the time this study was made, these were the types of problems of principal concern to agricultural economists in the state institutions, to government officials and researchers, and to most others interested in this kind of basic information. Since then, programs of other types have been introduced. Most of these are designed to achieve one or more of the following objectives:

1. To improve farm incomes.
2. To adjust production (up or down).
3. To conserve and rebuild soils.
4. To stabilize incomes (for example, through crop insurance).
5. To facilitate farm ownership or improve tenancy practices.
6. To improve conditions of farm labor.

These programs involve expenditure of large amounts of Federal money, and the equitableness, effectiveness, and appropriateness vary with the type and size of farm. If the principal purpose is to increase farm incomes, uniform treatment of all acreages of a given crop favors the large producer markedly, yet a small producer may be more in need of help or the one in whose hands additional purchasing power would have the most beneficial effect on the national economy.

points that will afford somewhat natural divisions between modal groups. It is also important to set up a classification in such a way that the subgroups can be used additively to produce totals that are comparable with previous census enumerations. Other considerations which are not explored in this paper have to do with comparability with such classifications as those of the Agricultural Adjustment Administration and the Soil Conservation Service. Still other aspects to be kept in mind are the usefulness of any classification of this kind in refining the crop and livestock estimating work of the Bureau of Agricultural Economics, the establishment of differential programs through legislation, and problems involved in bringing about, with as little disturbance as possible, desired modifications in the volume of production. Still other problems are found in the effort to relate the population aspects of the Census of agriculture to the Census of population.

Classifications Proposed

It is proposed that, for the purposes here considered, the farms of the United States be grouped into five main classes as follows:

1. Large-scale farms and plantations.
2. Family-commercial farms.
3. Part-time farms.
4. Residential farms.
5. Small-scale farms.[4]

The basis of classification suggested is that of value of products sold, traded, or used, supplemented by certain other criteria as indicated in the discussion under each class.

In using the value of products as the principal basis of classification, there arises the problem of comparability of farms from one census to another because of changes in the price level. To meet this problem, we suggest that adjustments be made for changes in price level since 1939. Adjustments of this kind could well be rounded to the nearest one hundred dollars. The general tabulations, of course, should be in terms of actual money values, but in determining the class of farm, as proposed earlier, an adjustment would be made to

[4] Various names have been suggested and used in describing farms of this kind. Among those suggested are "Subsistence Farms," "Low-income Farms," "Small Holdings," "Family-living Farms" etc. The terminology suggested does not entirely fit the classification since it is evident that most farms in classes 3 and 4 are also small-scale farms. Despite this inconsistency, however, it is felt this terminology can serve a useful purpose in designating that group of small farms remaining after segregating part-time farms and residential farms.

allow for changes in price level. Thus a breaking point of $600 as of 1939 might mean for 1944 a breaking point of $1,200 or $1,300.

Another problem closely related to this is that of dealing with shifts in status of workers (croppers, tenants, or wage hands) on plantations. It is generally known that plantation operators frequently make shifts in their method of operation. Usually these shifts are minor, involving possibly a shift of one or only a few wage hands to croppers, of a few croppers to share-tenants or vice versa, or in some cases a shift of some of these units to a share-cash or even to a complete cash basis. Sometimes, however, the shift may be much more extreme and encompass a complete change-over from a cropper and/or a tenant basis to a wage-hand basis entirely or vice versa.

To take care of the first or most usual type of shift, we suggest that the problem be handled in the manner outlined below by considering the plantation as a multiple unit farm and classifying it on the basis of the amount of labor used whether this be croppers and/or tenants or their equivalent in wage hands in mixed situations where croppers and/or tenants and wage hands are found.[5] Where the change-over is complete, from a cropper and/or tenant to a wage-hand basis, the farm no longer is a multiple unit enterprise, but becomes a single-unit farm. Therefore, it should be classified like any other single-unit farm; that is, it would be classified as a large-scale farm if it falls within the defined limits of that class or as family-commercial or other class of farm if it conforms to the defined limits of those classes.

While it is proposed that the basis for coding in terms of amounts of labor used be the expenditure for hired labor, it is assumed that the figure used would be varied from enumeration to enumeration and possibly from region to region to correspond to a specified number of workers for a specified time, or the equivalent of this. By this procedure changes in wage rates from one Census to another would be taken into account and would not result in throwing particular units into or out of a given class merely because of higher or lower wage rates.

[5] We suggest that a multiple unit farm be defined as one having two or more sub-units, one of which must be a cropper or tenant sub-unit, handled as a single farm enterprise under the close supervision of the multiple unit operator. Supervision would involve direction of cropper and tenant operations and central control of such items as crop rotation, farm power, machinery and equipment, purchase of supplies, sale of products, etc. Under such a definition one of the units obviously might consist of land worked by the operator and his family, or by wage hands.

As already indicated, the decision with respect to the problem of finding logical breaking points that will afford somewhat natural division between the modal groups must be arbitrary, because there are few if any clear-cut division lines between groupings. For the distinction between family-commercial farms and large-scale farms, the chief consideration has been to approximate the scale at which farms approach a more clearly industrialized type. For the distinction between family-commercial farms and small, non-commercial farms, the division has been made at a point where the sales of products in the commercial markets begin to be fairly significant. For the majority of farms having less than $600 in value of products sold, traded, or used at 1939 prices, a considerable part of the product is used by the farm family and its contribution to the commercial supply of products is not very significant. For the distinctions between the three groups of small farms, the criteria again are somewhat arbitrary but in the main they are self-explanatory.

It is evident that a modification of Census practice along the lines here suggested will present a number of problems to the Bureau of the Census although the procedure does not imply drastic changes in the methods of enumeration and tabulation. The principal schedule change would be in the plantation schedule. Here it would be necessary to secure on the main plantation schedule most if not all of the data now secured on the regular farm schedule and to do this for the plantation as a whole. This, as we understand, is essentially what is now being planned for the 1945 Census.

One aspect of the measurement of amounts of labor used has not been discussed heretofore and should have serious consideration if this plan is adopted. Possibly it should be considered for inclusion even if this type of classification is not undertaken. This is the problem of contract or custom work used widely on farms and ranches in the West and in Florida. Where this practice is followed, farmers and ranchers, especially those growing citrus fruits, often do not employ very much labor directly. They may, however, contract either with their cooperative associations or with private entrepreneurs to have their fumigating, picking, packing, and similar activities handled by specialized labor employed fairly continuously by the agency which contracts to do the work. So far as the farmer is concerned, this is for all practical purposes a process of hiring labor, and the amount so hired is an appropriate factor for consideration in

deciding the classification into which the ranch or farm will be put. It is probable, however, that the use of this factor in classification would not shift large numbers of farms from one class to another. On many of the large-size farms, management and working arrangements are likely to be such that the labor for performing activities of this kind will be hired directly. It would be very desirable, if a question covering this information could be included for California, Arizona, and Florida.

The classifications proposed are listed below together with a brief description of each:

1. *Large-Scale Farms and Plantations*

   A. *Large-Scale Farms*—We suggest that these be defined as farms having a value of products amounting to $10,000 or more at 1939 prices and which employ wage labor equivalent to at least ten men for three months, or roughly 750 days of labor.

The principal characteristic of these farms which differentiates them from the farms in the family-commercial group is the amount of labor employed and the method of handling it. Their relations with labor follow more closely the pattern prevailing in industrial plants than those characteristic of the family farm. Both they and their workers are confronted with special problems in recruitment, housing, wage determination, and other related matters.

The basis for determining the equivalent of ten men for three months (or approximately 750 days of labor) would be to tabulate on the basis of an arbitrarily determined minimum figure for total expenditures for hired labor. The actual amount might be varied from region to region or possibly from State to State by applying a different prevailing wage rate to this standard number of days.

This would automatically take care of major regional differences in wage rates and base the classification roughly on the same amount of hired labor in each of the regions.

We are not unaware of the fact that these special conditions of labor relationship exist even on many smaller farms in the specialized fruit and vegetable areas. In these cases, however, this large-scale employment is usually for very short periods. We think it might be desirable, if possible, to work out certain sub-classifications which would segregate groups having special conditions of employment. We believe, however, that most of these smaller farms have a good many of the characteristics of family farms even though they may employ fairly large gangs of workers for short periods.

B. *Plantations*—We suggest that this term be used for all farming units in the South which qualify under the definition given below. Multiple unit farms in this region would be defined as plantations if they employ five or more croppers, share, standing, or cash tenants, or if they employ at least one cropper or tenant and sufficient wage hands to make a total equivalent to five or more croppers and tenants, working under the direct supervision of the plantation owner or manager. Where wage hands are used in part, expenditures for hired labor amounting to the equivalent of 150 days at the prevailing wage rate would be considered as equivalent to one cropper or tenant.[6]

Under this proposed plan the schedule would need to include for the plantation as a unit practically all items appearing on the regular farm schedule, particularly the items showing the major uses of land, acreages in production, crops and livestock, expenditures, income, etc. Sub-units of the multiple unit could be treated as in previous Censuses, in order to make possible comparisons with previous enumerations. Multiple unit farms would be classified as plantations entirely on the basis of amounts of hired, cropper, or tenant labor used, without the $10,000 minimum for gross value of products. Other multiple unit farms would be treated as operating units and placed in the appropriate classification in the same manner as single unit farms.[7]

2. *Family-Commercial Farms*—We suggest that these be defined as farms having a value of products equivalent at 1939 prices to at least $600 and less than $10,000.[8]

This is the group of farms which is of major importance and is the one which has the most clear public approval as a type. It is also, however, a very diverse group and one in which there exists a wide range of opportunity for varying aptitudes, abilities, and scales of operation. For these reasons and because in the main these characteristics are considered desirable by most people in the United States, this category is defined broadly and is intended to cover a wide range in income.

Some discussion has been given to the differentiation of this farm type into sub-classes, but we are not presenting specific recommendations in regard

[6] This statement leaves for further consideration certain decisions that would have to be made by those in charge of tabulation; e.g., how would cash wages paid to croppers employed on the farm or plantation be handled? Croppers often work part of the time for wages on the farms to which their cropper units belong.

[7] These multiple-unit farms of smaller than plantation size should, of course, be shown separately in many of the subclassifications. For the broad general classifications, however, they would be grouped with the family-commercial farms.

[8] This group would also include farms having a value of product in excess of $10,000 if its employment of labor is too small to bring it into the large-scale farm classification.

to this. Probably the most desirable basis for such sub-classification would be the labor inputs used. Unfortunately, however, only the figure on total expenditures for hired labor as reported in the census schedules is available. This will not permit of a satisfactory differentiation as between, for example, farms employing hired labor and those of almost identical type which do not employ hired labor because the family contains one or more grown sons or other family helpers. The specific status of the farm as to employment of labor may be a temporary one, and the presence or absence of hired labor may affect the actual type of the farm scarcely at all.

3. *Part-Time Farms*—We suggest that these be defined as farms having a value of products at 1939 prices of less than $600 and with work off the farm by the operator amounting to 100 days or more.

This group of farms is easy to distinguish and is one that will probably grow in importance after peace is restored. The interests of the operators of these farms are different from and broader than those of the other small farm groups. In general they probably have a higher economic status and enjoy a better standard of living. There are many farms on which the value of products will be more than $600 though the operator works more than 100 days off the farm. It is felt, however, that most of these will require the major portion of the time of some worker whether it be the operator, family, or hired workers. However, on farms having a scale of business of $600 and above the characteristics of the farm and the interests of the operator are likely to be more like those for the family-commercial farm group than for the small part-time farm group.

4. *Residential Farms*—We suggest that these be defined as farms having a value of products at 1939 prices of less than $600, whose operators are 65 years and over, and who work off the farm less than 100 days.

These farms include rural and suburban residences of people at or beyond retirement age. Such farms are found scattered widely throughout the United States but tend to be concentrated around urban centers. They do not have any large interest in farming as an economic enterprise and are little concerned with fluctuating farm prices and income. They are interested, however, in programs relating to health and recreation, and in old age and survivors' insurance and related matters.

5. *Small-Scale Farms*—We suggest that these be defined as farms having a value of products in terms of 1939 prices of less than $600, and whose operators are under 65 years of age and work off the farm less than 100 days.

The farms in this group are among the lowest in scale of living of any in the United States. They are located primarily in the poor land areas, where the area in cultivation is too small, or where the productivity of the

land is too low to yield a decent living. They present many special problems, among which are the question of consolidation of the land into larger units, encouragement to the operators to become part-time farmers, or to shift out of agriculture entirely, etc.

The definitions of residential and small-scale farms, above proposed, are by no means the most satisfactory that could be devised. They could be defined much more precisely if additional data were available on the Farm Schedule for the purpose. Unfortunately, the criteria available are limited. It must be recognized, accordingly, that these two classes of farms are not as distinct as they should be. It will be noted that the primary distinction between them, as herein defined, turns upon the age of the operator. They both have gross incomes from farming of less than $600 and in both cases the work done off the farm amounts to less than 100 days per year.

Some may object to the upper limit of $600 for the residential farms, on the grounds that it represents a larger output than would be expected, or usually found, on farms where the operator is at or beyond retirement age and does not have someone else on whom he depends for the major part of the heavy farm work. Similar questions might be raised with reference to other dividing points set up in this classification. The primary objective here was to find meaningful groupings of sufficient size or importance to warrant treating them separately. Changing the limits of any one grouping would naturally affect the numbers included in that group, as well as in some other. For example, if the residential farms were defined as those with a gross income of less than $250, whose operators are 65 and over and work off the farm less than 100 days, the number of residential farms would be decreased to possibly 200,000 or 225,000 and the number of farms classified here as small-scale farms would be correspondingly increased.

If any reader desires to experiment with other limits for anyone of these groupings, he can find most of the data in the volume *Farm Characteristics by Value of Products*, published cooperatively by the Bureau of the Census and the Department of Agriculture. The estimates of the numbers in each grouping in 1940, given below, are based in large part on the data in that publication.

Relative Importance of These Farm Classes

In terms of the 1940 Census data there would have been approxi-

mately the following number of farms in each of these classes:[9]

Large-scale farms and plantations	75,000– 85,000
(55,000–60,000 large-scale farms and 20,000–25,000 plantations)	
Family-commercial farms	3,000,000–3,250,000
Part-time farms	600,000– 650,000
Residential farms	550,000– 600,000
Small-scale farms	950,000–1,225,000

In terms of physical production and of value of products the first two major classes would account for probably 90 percent of the total.

Tabulations

We suggest that in the General Report of the Census tabulations for these five main classes of farms be shown only for the major items and only for the United States and the Major Geographic Divisions. These tabulations should include those items particularly that will indicate the scale of operations and the relative significance of each of these classes of farms in the total production and income picture as well as the location, composition and productivity of the agricultural working force and, insofar as possible, the economic and social status of the operators and family members of the different producer groups.

In general, this would require tabulating for each of these five classes of farms—the total land in farms, land in crops harvested, in idle and fallow, in pasture, in woodland, etc.; value of land and buildings; mortgage debt; total income and income by source; the working force (operators and other family and hired labor); the major expense items (labor, feed, fertilizer, etc.); and, if possible, the major crop and livestock items. Because of the large number of these items on the schedule, however, it may not be feasible to show them separately. In such an event it would be necessary to depend upon the income by source data to show the significance of the different crop and livestock groups.

The more detailed tabulations, cross classifications and counts by these classes of farms should come in a special report, somewhat on the order of "The Analysis of Specified Farm Characteristics for

[9] In addition to the numbers shown there would be 575,000–650,000 croppers and tenants not shown separately because they are included under multiple unit farms which are shown in the plantation and family-commercial farm groups.

Farms Classified by Total Value of Products" which was drawn from a 2-percent sample in the last Census. In this special volume there could be shown a wide range of pertinent frequencies and tabulations. In addition to those already indicated there would be cross-classifications of each of these five classes of farms by age of operator; by days worked off the farm; by tenure; by size; by specified value of products; by specified classes of power and specified classes of livestock; by expenditures for hired labor, cross-classified by specified amounts expended for hired labor; by farms reporting hired labor cross-classified by number of laborers hired; by specified farm machinery and facilities; by major tenure classes cross-classified by years on farm, etc.

In addition to these cross-classifications for each major class of farm, further breakdowns could be made of any one class. It would be desirable to show more detailed breakdowns for the large-scale farm and plantation group particularly, also for the family-commercial farms. Tabulations that would throw more light upon the number, composition, and productivity of the agricultural working force and of the economic and social status of the three non-commercial farm classes likewise should be made. With such breakdowns and tabulations for all these major classes of farms, we could get a much clearer notion of their problems, their scale of operations, and their relative importance in the total picture. Such information obviously would be of great value to everybody interested in the welfare of these different groups, particularly to legislators and administrators in preparing legislation and developing programs of aid for them.

THE DEMAND FOR AGRICULTURAL COMMODITIES IN THE PERIOD OF TRANSITION FROM WAR TO PEACE*

JOHN B. CANNING
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I. Basis of Discussion

I WANT to take pains at the outset to lay foundations for the views expressed later. In particular, I want to make clear:

1. What kinds of demand need to be considered;
2. What kind of transition we face;
3. At what stage, in the chain of events between planting and plate serving, the "demand for agricultural commodities" is to be considered; and
4. What units of measure of demand are to be employed.

Managed and unmanaged demand. In this discussion, I could speak of "demand" in the sense in which most orthodox economists speak of it in connection with commodity markets or I could speak of "demand" in the sense in which many laymen and a few economists are beginning to transfer the term from service markets to commodity markets. I shall do both.

The subject matter of orthodox commodity economics boils down, all too frequently, to the proposition "not enough of everything to go around." From this sterile negative, economists spin a fascinating system of mutually consistent logical propositions—all dreadfully supine—and then proceed to point out real or fancied resemblances between their propositions and the real fix we are in at the time. The price point at which a market will clear or balance or wobble, they say, depends on the assumed system of competition, imperfect competition, or monopoly. With unmanaged supply and unmanaged demand, we get the die-dog-or-eat-the-hatchet stalemates of pure competition. With fully managed supply and unmanaged demand, we get the starve-'em-into-paying-higher-prices deadfall of pure monopoly. The gap between the two is filled in with cases of imperfect competition, duopoly, oligopoly and other word games of the mind.

* Adapted from an address to the Western Farm Economics Association at Los Gatos, California, June 27, 1944. The views expressed herein are put forward only as my own. For helpful comment on earlier drafts I am deeply indebted to Dr. J. S. Davis, Dr. Karl Brandt, Dr. H. R. Wellman, Mr. Otie M. Reed and (Mrs.) Jean Callanan.

A few economists and many laymen are beginning to intrude with a different beginning proposition. They want to take, as the foundation of economics, "it is always possible to get more for everybody of everything that everybody wants." Their "demand," too, is a compound of desire, ability to pay, and willingness to pay, but it is a managed demand—a different compound from that of most orthodox economists. They do not assume that primary judgments and actual irrational desires, or any compound containing them, will follow blackboard chalk marks drawn to represent rational conduct. They are more concerned with being right as forecasters of actual affairs than with following the rules of the logic of implication. They are not concerned with explaining by logic where a market balancing point would tend to fall but with means of moving an actual balancing point to the place where people want it to be.

Our highway transportation service is a familiar example of managed supply coupled with managed demand. Hard surface roads have been built privately and operated as toll roads. We have done bits of it that way. We have a few modern bridges with stone-age toll management. With this latter combination of managed supply and unmanaged patronage, we could have got a few good roads and a few motor vehicles to travel them. This would have provided orthodox economists with interesting new fodder for sophomore nosebags, but no one would travel much.

We did not do it that way. We let people express their demand for good roads—their desires, their willingness to pay and their ideas of who should pay—in polling booths and legislatures. As a result, anyone with an educated thumb can now have cross-country road transportation better than anyone could have got under unmanaged demand—no matter what his desire or ability or willingness to pay. That is, the thumb artist can do so until he comes to a toll bridge that gives orthodox economists a chance to explain economic laws to him.

With respect to highway transportation *service*, this is not a net replacement of private enterprise by public ownership; for the private manufacture and servicing of automobiles, by itself, became far greater than the sum of the private enterprise that could have realized itself under a wholly private toll road and private vehicle economy.

During these war years, the public management of demand has had a nearly world-wide spread into the food economy. There is no

room for doubt that the balancing point of food markets has been far nearer the point that permits feeding everyone well than it could have been without this demand management; that is, without the system of production supports, ceiling retail prices, subsidies and rationing we adopted. We acted as though we had concluded that a good diet for everyone is as much a public concern as good travel is. This made more—not less—private business in doing the feeding, just as it did in travel.

Character of the episode. To a very large degree, the transition we are considering today[1] is one that will be forced upon us by an episode: the collapse of hostilities is not repetitive. With the conclusion of a general armistice, we shall have to readjust with respect to a worldwide war buildup that has been going on for about a decade and a half. The 1931 Japanese intrusion in Manchuria and North China marks a beginning. In 1935, Italy followed the example in Ethiopia. The Spanish War kept the cauldron simmering in Europe while Japan extended its pillage of China southward. Hitler's beginning in 1939 ceased to be regarded as "phony" in 1940. Hitler lost his war when he invaded Russia three years and six days ago today. Japan made its fatal mistake at Pearl Harbor.

To be sure, the actual shooting rate did not rise to World War I proportions until June 1941. But, by necessity, the build-up in the war food economy of the world as a whole kept pace with the rise of the military establishments. There has been no recession in that rise since 1931. On the contrary, each new stage in that rise has been more furious than its predecessors.

In absolute battle fury, both adversaries are hitting harder and harder. But the hitting power of the Allied Nations is now, by far, the greater, and their gain in superiority of reserve power is accelerating faster than ever. This promises to result in a victory by enemy collapse rather than in a victory by attrition that leaves one side of its back and the other on its hands and knees—as in the case of the Napoleonic Wars. If this expectation is correct, the readjustment *rate* in the first post-armistice year may have to be many-fold greater than the *rate* of war build-up in any earlier year. Economically a collapse is harder to manage than is a gradual and general decline. It is the violence of this early rate of adjustment—rather than the magnitude of the whole job—that will make our problem most difficult.

[1] The general subject of the Conference at which this was presented was "Agriculture in Transition from War to Peace."

Stages of demand. In speaking of changes in demand, there are two main reasons why it is dangerous to neglect defining the stage at which demand is to be considered:

1. To avoid multiple counting; and
2. To avoid mistaking a change in demand at one stage as implying a proportionate change in demand at all earlier or later stages.

Agricultural economists do not make such crude mistakes as adding up demand for cattle to graze the ranges, plus demand for range stock in feeder markets, plus demand for finished cattle, plus demand for carcass beef and hides, plus demand for steaks, mince meat and shoe leather, to get a sum of demand for cattle. But they sometimes do nearly as badly by their loose reference to commodities as "agricultural commodities" long after the products have passed the farm-sale threshold. In the post-armistice demand transitions, there will be a great deal of mere transfers from the long grocery inventories of one set of holders to the short grocery inventories of other holders without implying a generation of additional demand at the farm level or the processor level. By "demand" in this paper, except where I note the contrary, I shall mean demand at the farm sale stage.

Measure of demand. To speak of changes in actual demand without specifying the measure of demand is always ambiguous. A fall in demand as measured by calorie values is entirely consistent with a rise in demand as measured by man-hours necessary for production. A day's labor produces about 10 times as many pounds of wheat as of pork; and, pound for pound, lean pork is far lower in calorie values than wheat is. There is no one measure of demand equally suited to all phases of food and fiber economics. I shall therefore try to make clear, at each stage, just what measure I have in mind.

I shall avoid aggregate dollar measure of demand altogether.[2] I could pick out of the air the equation of a post-armistice frequency distribution of money income, subtract another fancy equation representing money savings, add a third for previous savings to be blown in and multiply the resulting spending-money distribution by some function representing guessed-at percentages to be spent

[2] This decision turned, in part, on the fact that Dr. O. V. Wells was scheduled for a paper on "Agricultural Prices Following World War II" on the same occasion. See page 725.

on agricultural commodities. I shall, however, stick to those non-monetary elements of post-armistice demand that can be counted on to make their weight felt no matter what the annual spending-money aggregate and its distribution turn out to be.

II. Position at Armistice Day

Among the innumerable facts relevant to today's position with respect to the first year's post-armistice position, several groups of facts become a sort of hierarchy. These include:

1. The excessive calorie value of present per capita diets;
2. The present and recent demand that is not reflected in current consumption rates but only in the accumulation of the special inventories necessary to waging war;
3. The inter-commodity distortions of wartime requirements; and
4. The geographical shifting of demand due to wartime events.

To appraise prospective demand in a post-armistice situation, it will be necessary to consider each of the four foregoing sets of facts against established and prospective long run trends.

Calorie values. Within the geographic area of use that is important for American agriculture, one of the most significant variables in the post-armistice period will be that of per capita calorie value of the daily diet actually eaten—not just bought. Certainly that value will go down and stay down until another war or other great disaster comes. Soldiers and sailors on active duty actually eat far more, in energy values, than they would—or even could—in normal peacetime pursuits. This is a matter of plain thermodynamics. Muscle work per day runs high among soldiers and sailors. The human muscle—although it is an efficient work engine—does not convert all food energy values into work. When men are working hard they generate excess heat. Hence, much of the food energy is wasted through radiation of the unneeded body heat. When they are not working their muscles, soldiers and sailors have to generate more body heat to compensate for heat losses due to wet clothing and to exposure to outdoor winter air than well-sheltered people do. They have to turn their stomachs and their livers into outdoor stoves as a substitute for heated houses and changes of clothing.

In the United States Army, Navy, Marine Corps, Merchant Marine and Coast Guard, this excess of daily calorie value over

peacetime requirements of the same men probably runs to 800 or more calories per day. This figures out to about 100 calories per capita per day for our whole population. The corresponding soldier-civilian difference for Canadian and Australasian troops will be about the same. For the United Kingdom, the levels of both civilians and service men are below ours but their soldier-civilian differential is probably bigger than ours. Our meager information puts the German military levels somewhere near the British but the soldier-civilian differential is probably greater. Very likely this same differential in the U.S.S.R. is greater than the German differential. I should guess that a similar relation holds for Japan and China. The ratio of men in military service to total population is high in all of the principal belligerent countries. Hence, adjustment for this one factor of excessive calories in military diets is big enough to be taken seriously by itself.

Actual food ingestion will almost certainly fall in calorie values for adult civilians of working age also. We now average more hours worked per year throughout the western world than we expect to later. On the average, at present, civilian work is harder muscularly and the pace is hotter and more of it is done under adverse exposures than we can expect to be continued after the armistice. People working or playing or merely sitting under nervous strain also burn up more food—witness the eating of peanuts and hot dogs at ball games. The post war change from this factor will, no doubt, be less per civilian than that of the soldier-civilian change at demobilization but this smaller shift per eater will apply to a far larger proportion of the total population and may well bulk far larger in the total influence on demand for agricultural products than the corresponding calorie reduction for soldiers.

War inventories. While armed forces are increasing in numbers, the concurrent food procurement for them increases far faster than the mere increase in food eaten per man per day multiplied by the number of men in arms. This is true even in basic training camps; for bigger inventories are required to back up each man. That increase of inventories per man goes up still further in areas in the Zone of the Interior in which maneuvers are part of the training. A still bigger increase of inventories per man attends the sending of an Army to an overseas strategic base not in contact with the enemy. The biggest increase of all, over civilian inventory, comes when the troops move into actual overseas theaters of operation and into battle.

Armies in overseas theaters of operation, in addition to their daily eating requirements and to the daily feeding requirements of dependent civilians in the same area, have to be backed up by the following chain of inventories: (1) tactical stocks in the immediate rear (company, battery, regimental, divisional, corps and army stocks) big enough to enable them to stand a cut in their supply lines; (2) overseas base or strategic stocks (e.g., those now in Britain and in North Africa) big enough to stand an all-out submarine and air attack to cut off sea-borne arrivals and big enough, in addition, to permit withdrawal of trans-ocean ships for final-step invasion duty; (3) supplies in sea transit (3 to 8 weeks' consumption requirements depending on location) from supply areas; (4) port stocks big enough to assure prompt ship loading with proportions dictated by last minute cables; (5) stocks in inland "surge chamber" storage to relieve rail congestion; (6) stocks in rail transit to port; (7) stocks in supply depots in the Zone of the Interior; (8) stocks in contractors' hands earmarked for military use; (9) stocks of materials earmarked for packing under military contracts; and (10) set-aside or contingency reserves. In every one of these ten positions, foods, being perishable, are subject to losses. In many positions, enemy destruction is a significant factor. Because the chain of supply is long and because it changes without notice, some stocks get out of position.

For a civilian population, dependent like that of the United Kingdom upon seaborne imports, it would be an invitation to disaster intentionally to allow stocks to fall to peacetime levels. By choosing to attack Russia when he did, Hitler declined a chance, by a few weeks of all-out sea and air attack on arriving food ships, to knock Britain out of the war. Now civilian reserve stocks in Britain are many times as great as their normal peacetime stocks, but, considered as military resources, they are not, even now, excessive. Their main role now is to permit large numbers of supply ships to be drawn off for weeks at a time for troop movements. The larger inventory of food permits a smaller inventory of ships and a fuller and more flexible use of ships.

All these inventories had to be built up out of current production. Hence, they affected demand, pound for pound, as much as did the increased daily consumption by armed men. For some military positions, it takes twice as much per man per year in the first year as it does in later years. Take the example of a soldier who has been overseas for a year. During that year he has had to be fed

daily. Prior to and during that year, an additional year's supply for him must be built up in the system of supply pipelines and reservoirs. But that reserve does not have to be increased later. Not only will this element of demand for inventory increase cease with the armistice, but the Army can live a long time on that part of its inventory that it has had, hitherto, to keep for strategical and tactical reasons. Alternatively, the excess inventories can go into civilian relief feeding. This temporary substitution of inventory eating for inventory accumulation can knock a big hole into the concurrent demand for agricultural commodities.

Inter-commodity distortions of demand. Aside from the larger calorie values of Army diets per man per year, the military demand has distorted the relative proportions of food and textiles. Military characteristics of commodities dominate buying for field service. Physical characteristics that are of little or no importance in clearing a civilian market may take on the greatest of importance for an Army.

To send sacked Idaho potatoes to a beachhead is to require shipment of 10 tons of Idaho water and a ton of potato peelings over a 2500 mile rail haul, a 3000 mile ship haul exposed to air and submarine attack, an amphibious movement under fire, and a final truck haul under land and air attack to the front—only, in the end, to require armed fighting men to be detailed to peel 11 tons of potatoes for 1 ton of potato food. One of the big reasons for increase in use of potatos and onions over use of other vegetables is that they are more amenable to dehydration and to use in dehydrated form. Much the same reasons justify the enormous increase in military shipments of boned frozen beef in standard boxes.

The War Food Administration's overseas shipments—Lend Lease, government to government cash sales, sales to relief societies for overseas use—have introduced far greater inter-commodity distortions of demand than American military uses have. The British, for example, have so greatly expanded their production of potatoes, other vegetables, and bread grains, that they now import far less of these than they normally do in peacetime. But they have little in the way of feed grains and other feed concentrates and their total forage resources are insufficient for dairy herds and grazing animals. They have cut their flocks and herds to fit the feed resources. Hence, instead of providing full diets for some proportionate part of the population of Britain, we provide a large propor-

tion of the total population's requirements in fats and oils, lean meats, eggs, milk (as dried and canned milk), cheese and fish.

Supplies to the U.S.S.R. have been nearly all for direct use by their armed forces. Hence, military characteristics have been one dominant factor in selection. But a far greater distortion is introduced into Russian demand by their extremely short supplies of some items. Fats, fat cuts, sugar, vitamins and high vitamin foods run to much higher proportions in our supplies to them than in our supplies for the British armed services and for British civilians.

Something like 7.3 million short tons net weight is reflected in 1944 allocations of American foods for export via Lend-Lease programs alone. Considering the extremely condensed, waste-free packing and the great proportion of high-cost products, this particular demand element has an importance greater than that of a like tonnage distributed in even proportions over all foods. There is no reason at all to expect that post-armistice demand will be made up in like proportions—no matter what the gross post-armistice tonnage turns out to be.

The quantities of wheat and corn now going into industrial alcohol are huge by contrast with the supplies formerly going into distilled beverages. Recently a project for making industrial alcohol from wood wastes was approved. This one concern, by the end of 1945, will be able to supply the alcohol equivalent of 50 million bushels of grain a year—and to supply it cheaper.

Nearly all of this inter-commodity distortion works in one direction—so far as demand for sheer tonnage of agricultural commodities is concerned. The great tonnage increases have come in commodities that are highly condensed at the manufacturing level. The excessive proportion of vegetable oils and of animal products requires farm production of an enormously greater tonnage of the primary crops. In a word, our present exports are not normally export items.

Geographic shifts. Within the supply area contributing to wartime requirements of the Allies, there have been great geographic shifts of demand. These are obvious in the case of rice, sugar, tea, spices and oils from the Southwest Pacific and the southeastern portions of Asia. The Allied Nation's deficits in rice and oils have been made up to a considerable extent from Western Hemisphere crops.

But the shortage of shipping—in relation to military needs for shipping—has been a far greater factor than enemy occupation of

earlier supply areas. Except for ship shortage, far heavier demands would have been made on South American countries, South Africa and Australia to increase their exports of items they normally export. In some commodities in these regions, both production and export have fallen for this reason alone. In 1942, many real but bad-guessing experts were wringing their hands over the problem of storing wheat in Canada and the United States. By the end of 1943, total exports of wheat—in response to short sea routes enforced by ship shortage—had already cut the United States supplies below a safe limit and the only North American stock available in a "collapse" emergency was the stock in rural positions in the Canadian Northwest. Early in 1944, the export rates from this continent were still rising and the War Food Administrator had to take a firm stand that not only must more distant sources be tapped, but some imports must be made. Beans and other pulses followed a like course.

A European armistice alone would quickly alter and partly reverse much of this geographical demand shift—not to speak of the still greater effect of a general armistice. The United States cannot compete with the tropics for cheap edible oils and sugar. American rice cannot compete in European trade with rice from Indo-China.

Position factors. The foregoing four elements—declining calorie value of diets, liquidation of war inventories, reversal of inter-commodity distortions and re-routing of food commerce—all work in the same direction so far as post-armistice demand for American agricultural products is concerned. The first three operate in the same direction with respect to total demand in the area in which the United States may hope to trade. Among them, they will add up to a huge cut in any unmanaged demand in the post-armistice period.

Against these, there will be a number of minor offset elements. Farm sales will, no doubt, supplant a lot of victory garden supply, but not all. A good many have learned they like gardening and like giving home grown food to friends. The force of patriotic pleas not to waste food will, no doubt, weaken. And the summation of waste rates between farm sale (the final point of demand for *agricultural* commodities) and actual food ingestion is a big percentage of the tonnage sold by farmers. This percentage may rise, but there is little reason to expect that the wartime reductions of waste will wholly vanish. By inertia alone, a good many customs of dealer handling, kitchen handling, plate service and left overs handling

will stick. Many new, waste-avoiding recipies will persist. All new processes of manufacture, handling and storage are waste savers. For foods, real demand functions are too closely related to biological functions to be wholly reversible with reversal of market conditions. Hence, little can be expected of such offset elements.

"More food" delusions. There is a great deal of loose talk about "more food for everybody." Most of those who indulge in it seem to think more in quantity of each and every kind should be provided and eaten. This is a delusion. Even though economists do not share it, they must take it into account; for, the more widespread a delusion is, the more dangerous it is. It is, of course, true that wherever 135 million people are gathered together—or spread out—there will be some of them who on some days would have been better off for eating bigger meals of the same constitution or of bigger calorie value. But I doubt that in any North American or European population in peacetime, the annual summation of such amounts would be a major fraction of one percent of the non-marketed farm commodities in that country for that year. This is not to belittle the saving in human lives and health that could be had at small cost. On the contrary, that small cost would be an excellent national investment. It is only to say that the food required would not be a significant factor in the total demand for agricultural commodities.

Demand for "more food" in the sense of more expensive foods, or more nutritious foods, or preferred foods, is quite a different matter. In fact, a preferred diet may well consist of smaller physical quantities and of smaller calorie value.

There is also a great deal of talk about post-armistice food import requirements for civilian relief in Europe. No matter when the break comes, that requirement will be big. At present, the magnitude of it is largely speculative. The most convincingly supported maximum quantity estimate for total tonnage of food and feed to be required for net import into the continental European area in the first year following an armistice that I have seen is Dr. M. K. Bennett's.[3] He puts this at 15–18 million metric tons. This figure will be diminished to the extent of such military stocks as may be sold from the strategic and tactical reserves of the military personnel of British and American armies in the area at that time. All

[3] Food For Postwar Europe: How Much and What (War-Peace Pamphlet No. 5, Food Research Institute, Stanford University, March, 1944.)

the well authenticated information that has come to me and that is of later date than Bennett's study indicates that his estimate is generously high.[4]

Supposing the break to come in 1944 (but after harvest time) a very large part of that area import requirement for the first year will have exactly no influence on the demand for *agricultural* commodities external to the area. That is to say, a large part of the commodities used will long since have become groceries. Their influence on demand for agricultural commodities will already have been spent—not in prospect. It will have to be counted largely as 1942 and 1943 demand for *agricultural* commodities.

Let me list a few items that, on Armistice Day, will already be out of the picture so far as demand for commodities that *are still* agricultural commodities is concerned.

The War Food Administration will still have in its inventories and on order about 2 million tons—mostly of concentrated foods. The war reserves in the form of British civilian stocks in a large number of important items run to several times the magnitude of their normal peacetime stocks. The per soldier military reserves of every one of the Allied armies that will continue to be military necessities until the enemy is disarmed are all far larger than the per soldier reserves necessary—or even useful—for an army of occupation. The same is true of enemy military stocks. In addition, off-continent armies will promptly begin to go home and none of those going home will take more than enough food for the trip. In this country and others, food stocks already in manufacturers' and traders' stocks will be big enough to satisfy both their domestic trade outlets and their current rates of selling to the Government for overseas requirements.

When all of these items already collected are put together, I strongly incline to doubt that the *first year's* post-armistice relief requirements will require any great quantity of American commodities that are *still* agricultural commodities on Armistice Day. In that year I expect the residual aggregate in import requirements from all areas to be below those of pre-war years.

On balance, I doubt that the increases in unmanaged demand for agricultural commodities will come anywhere near matching the decreases in unmanaged demand for them during the first post-armis-

[4] This later information does not include formal, summary estimates of 1944 continental European crops. The meager weather reports do not favor large yields in the area this year.

tice year although that breed of demand may well be greater for American farm products in the first year than in later years.

III. The Long Time Trends[5]

In Section II, I have drawn the European Armistice Day scene and the prospect for the following year or so as well as I can forecast them from current knowledge of short-run operations. The prospect is not cheerful but it does fairly suggest the dimensions of the readjustment to be effected and the speed with which the early part of it must be done if we are to avoid a smashup of the world's agricultural and food economy. There is no unique right solution of such problems.

There are those who now clamor for the removal of all controls and for a reversion to a reliance on commodity trading by private traders—apparently in the honest belief that private enterprise, unassisted and uncoordinated, can effect an acceptable adjustment. Some also say they favor an early unilateral revocation, on the part of the United States, of import and export controls in a hope that private international trading on a multilateral basis without political discrimination or restriction will result in a satisfactory expansion of international trade.

I cannot share such views. The cost of war includes the losses incidental to the liquidation of war industries and the costs of demobilization of industry and the costs of putting our economy back upon a peacetime basis without post-armistice destruction of lives and livelihoods. Such costs, like pre-armistice war costs, should be borne by all for whose benefit they were incurred. It is grossly improper to exact such costs and losses of those who were merely doing the war's production work at the collapse of hostilities. It would be equally improper, as well as illusory, to expect private traders to shoulder such costs for the benefit of non-traders. They could not do it—even with the best of will.

The reconstruction of the world's food economy, if it is to be done

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[5] In the original address, this section was much longer both in analyzing the character of these trends and in suggesting particular programs or devices for utilizing the forces of these trends in the post-armistice management of food demand. It was, nevertheless, highly unsatisfactory to me—especially in the incompleteness of the operational features. Since then, I have been asked to work out those features more fully for an address to be made early in 1945. Hence, in the few following paragraphs I have chosen to do little more than to indicate the general direction of effort in post-armistice adjustment that promises to accord with trends already established.

well and in accord with the professed war aims of the Allied Nations, must be underwritten and managed by governments. They must find ways of enlisting and rewarding the full efficiency of private traders as operators in a program. But the financing of the risks and the capital costs of reconstruction must be borne by the whole public for whom the war was won.

In the international field such one-way agencies as UNNRA can help, but the biggest adjusting job will be one that is wholly internal to the present exporting countries—especially the United States, Canada and Australia. Operational apparatus for this job is not even under serious consideration as yet. This gives economists their chance; but they must take it now or lose it.

Agricultural economists, in proposing measures, will do well to take the fullest advantage of those long term trends that are deeply rooted in world economies as well as in the domestic economies of the several nations. Among these, there are at least three interrelated trends all pulling in the same direction.

The general technological trend. Soon after the Napoleonic Wars, the rise of modern inventiveness in technology began to make its weight felt in daily living. Before the middle of the 19th century, the aggregate production of economic services (including the direct services of consumer goods) began clearly to outrun population increases in all industrialized countries. That increase shows up strikingly in the food economy.

The increase in efficiency of food preparation has, indeed, led to an increase in numbers and proportion of the population engaged in commercial food processing. But the proportion of the total human labor that has, nowadays, to be devoted to food production—from soil preparation to table serving—has been greatly cut down. That reduction is most obvious (although probably not most important numerically in working hours) in the farming segment of the food economy. Save as a consequence of great wars, a rapidly diminishing proportion of Western populations has not only maintained the earlier farming or extractive requirements for population feeding, but has banished famine both as plague and as specter.

The diet trend. Improved diets (in the sense of preferred diets) have followed in the train of advancing technology. These have come not only from inventions that improve food production and handling but also as a result of the greater per capita real income of the lower income groups in all advanced countries.

This dietary trend in recent years shows very little upward change in the per capita calorie value intake. The change is in diet constitution. Year round supply of fresh and preserved fruits and vegetables (formerly called luxury foods, but now known to be important health and growth protecting foods) show marked increases with every increase in the lower and middle levels of real income. Foods high in protein content also increase markedly with increase in total per capita income. So also do fats and oils. The carbohydrates, as a category, have borne the entire compensating category decline.

Within each of these categories, a corresponding shift of relative position is steadily marked in all real income increases. Among the protective foods, citrus fruits and tomatoes, the most effective protectors, show the largest gains. Among proteins the dairy products, meats, poultry and eggs show greater proportional gains than do the vegetable proteins that are low in those amino acids that can not be synthesized in the human body. Among fats and oils, the preference runs to butter, bland salad oils, the most easily digestible shortenings and to fats in meat cuts that are interspersed with the lean meats of well finished animals. Even among the carbohydrates there have been marked increases in per capita consumption of sugar and even in the high grade starches of potatoes and sweet potatoes. The category decline is thus shifted to direct grain products.

For postwar adjustment, the important features of the two foregoing trends are:

1. That total productivity of labor has increased during the war decade more rapidly than ever before;
2. That the imperative necessities of war have held back most of the civilian dietary trend that materialize fully only when our full powers are dedicated to the supply of peacetime goods and services; and
3. That at all stages of technology, the force of the whole dietary trend (both between food categories and within each of them) is in the direction of those foods that require more land, labor and equipment per calorie for their supply than do those cruder cereal foods that are displaced in diets.

In a word, the kind of diets people want require employment of more land, men and machines than do the diets they have been getting and, to satisfy *this* element of demand, our American wartime

export supply has been far more heavily weighted than has our domestic diet with the preferred diet ingredients. Hence, a big part of the adjustment job can consist of getting promptly to our own people a bigger part of our own farm produce that American families really want.

The trend in demand management. In the past decade of war and preparation for war, about 700 million people have become accustomed to a concert of effort, under government programs, to sustain and improve the entire sequence: farm production; food processing, storage and transportation; and the day by day, person by person distribution of food as it appears at mealtimes. They have seen it done despite the violent conversions and changes of direction in our total productive effort necessitated by war. Production supports at all levels, price guarantees to operators, price ceilings to consumers, subsidies, rationing of items in short supply, wage level adjustments to permit efficient diet levels have been resorted to by all the warring countries.

There is no reason for supposing that these same controls will serve well after the collapse of hostilities. On the contrary, drastic revision—possibly amounting to nearly new design—will have to be made. In tackling this job, there is one great source of confidence that plans will get a hearing: 700 million people who have seen a good job of human feeding done in wartime do not have to be convinced that a much better one can be done in peacetime. There is also a strongly rising belief that the higher national cost of doing a thoroughly good job of feeding, via subsidies or otherwise, may be more profitable both in economic and political values than the lower cost of doing a needlessly bad feeding job.

AGRICULTURAL PRICES FOLLOWING WORLD WAR II*

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Bureau of Agricultural Economics

WE ARE sometimes told that prices are all too often and too exclusively the center of agricultural attention, that there are other items with which farmers and their spokesmen could be better concerned.

Perhaps. But this concern with prices is well founded. Prices received by farmers explain about 75 percent of the variation in farm income from 1910 through 1943, and an even greater percent of the year-to-year changes in income over the same period.[1] This is easy enough to understand when we remember that agricultural production is relatively constant, that about one-half of all farm costs are non-cash costs, and that cash costs for such items as feed and hired labor tend to move with prices received. As a result, an endeavor to understand the future course of agricultural prices should at least serve as a fair introduction to the confused and difficult future with which farmers and the rest of us are faced.

Such an endeavor could move along any of several lines, but in the discussion which follows the effort will be first, to summarize the current situation and second, to consider some of the questions which will need to be answered in case agricultural prices should fall against the support price structure. Attention should perhaps be called to the fact that a specific forecast of the future course of agricultural prices is not attempted and that the economics underlying the analysis are those of the classical school, except for perhaps one amendment: That is, I assume that competition between groups works in much the same manner and arrives at about the same end as competition betweeen individuals, given equal bargaining power as between the several individuals or groups concerned.

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* Prepared for the annual meeting of the Western Farm Economics Association, June 28, 1944. The views in this paper are the author's alone and are in no way intended as an analysis or a statement of the official views of the Bureau of Agricultural Economics or the War Food Administration.

[1] The simple coefficient of determination between the prices received and gross farm income is 0.77, between prices and net income from farming to all persons on farms is 0.72, between prices and realized net income of farm operators is 0.73, while the coefficient between year-to-year changes in prices and year-to-year changes in the realized income is 0.78. All of these correlations are based on indexes for 1910 through 1943, with the base 1935–39 equal 100. The regression coefficients between prices and income range from .85 to 1.10—that is, farm income changes about 1 percent for each 1 percent change in prices received.

I

Agricultural prices are now at an attractive level. In terms of the over-all index of prices received by producers, prices have now been above the "parity level" for two and one-half years after having been continuously under this desirable and long sought level for twenty-one years from 1921 through 1941. Prices are currently about 80 percent above the average for 1935–39 and farm income, however measured, was at an all-time high in 1943.

Altogether, it seems fair to say that farmers and their spokesmen were as little concerned with prices during 1943 as in any year since 1918. Farmers were chiefly worried over production and the factors immediately affecting it—labor, farm machinery, fertilizer, feed and always, of course, the weather. Prices were sufficiently good and a favorable demand for agricultural commodities, for all that could be produced, seemed assured until some time after the end of the war. Some of the questions that are now being raised, however, tend to run in the opposite direction. Such questions are a result of the decline in potato prices last summer and fall and the more recent difficulties with egg and hog prices, as well as the general feeling that the German defense will at least be badly battered, even if it should manage to survive 1944.

An examination of the current situation for certain commodities is worthwhile. In general, prices for corn and the other feed crops, wheat, cotton, and the several oilseed crops, tobacco, chickens and eggs, meat animals, and milk and butterfat have all swung upward together from the average prevailing in 1935–39. Grain prices, including wheat, lagged behind the general rise at the start while egg and hog prices, which were included in the main current until a few months ago, are now under the general level. But it is the general pattern which is striking and the two exceptions are easily noted: Prices for vegetables were forced sharply upward, especially in the spring of 1943, while fruit prices moved out above the general level in 1943–44. Vegetables, however, were somewhat closer to the general level in the spring of 1944, while fruit prices were still affected by the short crop of both apples and peaches in 1943.

The outlook for the year ahead seems to be for some tightening of the supply situation, especially for hogs, chickens, and eggs, due to the pressure of the feed situation. At the same time, prices for several of the vegetables and some of the fruits, especially apples

and peaches, will apparently move back toward the general level. Some fruit prices, however, will again be at a relatively high level during the summer and fall of 1944.[2]

Agricultural prices should remain relatively stable during the twelve months or so ahead and not only the average level of all prices but also the actual prices of a surprising number of individual commodities are expected to be somewhere around 85 percent above the average for the five years, 1935–39, or about double the averages for 1910–14. We must add, of course, that either a widespread drought or a general break-through in the Administration's control efforts could force prices sharply upward.

Agricultural production was about 28 percent greater in 1943 than in 1935–39 and an additional increase should be realized in 1944. The current outlook is that we will end the war with chicken and hog numbers down somewhat and milk production at about its current level. Cattle numbers were at an all-time high on January 1, 1944 and it is doubtful if they will be reduced to normal within the year or two immediately ahead. Over-all crop acreage should be maintained at about its current level and changes in crop production from now until the end of the war will depend chiefly upon the yields obtained. Altogether, it seems conservative to say that we shall end the European War with farmers producing at least 25 percent more for sale or use on farms than the average for the five years 1935–39.

II

An analysis of the course of agricultural prices during the transition years following the German collapse or the factors affecting their course is no simple task.

There are, as a matter of fact, some differences among economists as to the forces which will operate and even greater differences as to the alternative policies which should be followed.

John D. Black, for example, seems to believe that farm prices are

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[2] Sharp decreases in prices for several classes of fruit and some similar commodities are to be expected once the special demand conditions which are now current come to an end. Season average prices for the several classes of berries in 1943, for example, were 202 to 403 percent of the prices prevailing in 1935–39, while prices for olives for canning were 198; olives for oil, 421; filberts, 207; walnuts, 239; almonds, 254; oranges, 223; grapefruit, 276; peaches for canning, 255; raisins, 293; dried apricots, 305; dried prunes, 312; hops, 320; apples, 321; dates, 375; fresh pairs, 417; grapes for table use, 409; and California grapes for wine and brandy, 564 percent of the prices prevailing in 1935–39. Several of these prices will be maintained and in some cases further increased in 1944.

now and will continue to be determined in large part by governmental action, that the assurances contained in the Act approved October 2, 1942 should take care of farm prices "pretty well" for two years after the end of the war, and that it is very doubtful if such assurances will even then be dropped. Black admits that some procedure must be worked out for making these guarantees good, but feels that this should not be hard in view of what the country has been learning since 1929.

Pearson and W. I. Myers, on the other hand, conclude that the regimented economy of World War II has reached about the same end as was reached by free price relationships of World War I and Pearson at least seems to have small faith in conscious efforts in the field of economic management. T. W. Schultz and others, however, agree with Black that concerted action can affect prices and are worried about the effect of parity standards and control devices on foreign trade as well as on the wise allocation of resources within the United States itself.

Meanwhile, E. G. Nourse has come to the conclusion that "administered prices" offer about the only middle course to American businessmen between the conservatives and their belief in a theoretical "laissez faire" and the radicals and their solution: government control.[3] Actually, the several farm organizations do not seem to be too averse to such a solution and, as a matter of fact, it is doubtful if there are any choices left. But to achieve "administered prices" in the agricultural field will require governmental aid—that is, the farmers and their spokesmen will need to continue to intervene in or influence government in order to assure the desired aid.

As we are all aware, farmers have already received assurance of substantial aid in supporting prices under the so-called "Steagall Amendment" and the Agricultural Adjustment Act of 1938, as amended by the Act approved October 2, 1942.

That is, the Congress has directed the Secretary of Agriculture or the War Food Administrator to support prices for the basic

[3] Administered prices arise when the seller is sufficiently strong and has sufficient control over resources and the market to make it possible to adopt and carry out a conscious price and production policy, especially in the business and industrial field. Apparently Nourse would exclude the use of direct governmental aid in determining and carrying out such a conscious effort. But farmers and others must almost certainly ask for government aid if they are to hold their own under such an "administered" system. See earlier chapters: Edward G. Nourse, Price Making in a Democracy, The Brookings Institution, Washington, D. C., 1944.

agricultural commodities—corn, cotton, wheat, rice, tobacco, and peanuts (for nuts)—and of commodities for which substantial increases in production have been formally requested—soybeans, flaxseed, and peanuts for oil, potatoes and sweet potatoes (when properly cured), American-Egyptian cotton, hogs, eggs, chickens (excluding chickens weighing less than three pounds and all broilers), turkeys, and milk and butterfat—at not less than 90 percent of parity (or in case of the feed crops, 85 percent, and cotton, 92.5 percent) for two years from the January 1 following the date on which the President or the Congress shall have proclaimed hostilities to have ended.

This is a far more difficult assignment than anything contemplated in the Agricultural Marketing Act of 1929 or the Agricultural Adjustment Act of 1933. But the commodities covered only account for about 65 percent of the cash farm income since fruits, vegetables, beef cattle and veal calves, sheep and lambs, and wool are not covered. Questions will, of course, be raised relative to these and other commodities if and when prices break. Sugar beets and sugarcane, however, are already covered under a special Sugar Act; and the wool growers have already induced the government to undertake a general purchase program which they certainly want continued for some time after the end of the war.

Can these prices be supported? The answer should, of course, be conditioned: Such prices can be maintained *provided*, adequate funds are at hand, *provided*, means of storing and disposing of substantial quantities of each of the commodities are worked out, and *provided*, production is not forced or maintained too far out of line with the effective demand.

Perhaps the foreign shipment of food to meet relief and reconstruction needs will be sufficient to clear the market during what we are now calling the conversion or transition period. Perhaps not. But enough has been learned since 1933 to indicate that means can be found to support prices and to carry stocks of some commodities over a considerable period. At the same time, we have also learned that the actual existence of excess or surplus commodities forces a continuing search for new or more acceptable means of disposal.

There is, of course, the question of funds: Will Congress stand behind the support program? So far there is no reason to think otherwise, and on two recent occasions the Congress has, in fact,

specifically instructed the Secretary of Agriculture or the War Food Administrator to support prices at the announced level.[4] Annual appropriations equal to 30 percent of the tariff revenues are available for surplus disposal and similar uses, and Agriculture also has some claim on the lend lease appropriation in case a disaster or insurance fund is needed.[5] However, the use or continuance of these funds will, of course, depend upon the future action of Congress as will the life and financial resources of the farmers' strongest and best financed support agency, the Commodity Credit Corporation.

Support activities should be designed to fit the commodity concerned, and four different methods are currently being used by the government.

First, there are the non-recourse loans which apply to basic crops and some other crops which are easily stored and marketable in the condition in which they leave the farm. *Second*, there is the direct purchase of commodities from the farmers. Such commodities must be easily stored and this method is now being used for peanuts, soybeans, flaxseed, and wool. *Third*, there is the purchase of graded or processed commodities from dealers or processors provided

[4] The Joint Resolution extending the life of the Commodity Credit Corporation until June 30, 1945, provides that "it shall be the duty of the Secretary of Agriculture or the War Food Administrator, through loans, purchases, and other operations . . . to completely fulfil all commitments made to producers" under the so-called Steagall Amendment.

In addition, the Senate Banking and Currency Committee, in the report accompanying the bill to amend and extend the Emergency Price Control Act of 1942, submitted May 30, 1944, called attention to the fact that some farmers have been unable to obtain the announced prices for their commodities and added that while the Committee recognized the administrative difficulties involved, it also hoped that the War Food Administrator would be able to fully carry out all commitments made to farmers for the purpose of getting increased production. And the Act approved June 30, 1944, extending the life of the Emergency Price Control Act and the Act approved October 2, 1942 to June 30, 1945 includes the following amendment to the Price Control Act:

"The President, acting through any department, agency, or office of the Government, shall take all lawful action to assure that the farm producer of any of the basic agricultural commodities (cotton, corn, wheat, rice, tobacco, and peanuts) and of any agricultural commodity with respect to which a public announcement has been made under section 4(a) of the act entitled "An act to extend the life and increase the credit resources of the Commodity Credit Corporation and for other purposes," approved July 1, 1941, as amended (relating to supporting the prices of nonbasic agricultural commodities), receives not less than the higher of the two prices specified in clauses (1) and (2) of this section (the latter price as adjusted for gross inequity)."

[5] See the testimony of Lee Marshall and R. W. Olmstead in the hearings before the Subcommittee of the House Committee on Appropriations, Seventy-Eighth Congress, Second Session, on the Foreign Economic Administration Appropriation Bill for 1945 under the subhead: Reserve for Agricultural Revolving Fund.

specified minimum prices are paid to the producers of the raw material. Perishable commodities can be handled by this method which is now being used to support prices for eggs, hogs, and vegetables for canning. *Fourth*, supplemental payments to producers are also used as a means of price support. Such payments are now being used to assure returns for milk and butterfat, and this method can be used in cases where the government does not care to take title, especially for commodities which must be directly consumed.

All of these except the last are only immediate devices for holding prices to a given level. They do not dispose of the product. Supplemental payments allow the commodity to move forward without delay to consumers at a lower cost than were prices maintained at the support level. All too often, however, even this would not assure that the excess supplies will be satisfactorily disposed of. In fact, too much of the discussion of support activities is now centered around the devices most immediately used and the belief that agricultural prices can be simply "fixed."

Such estimates as are available indicate that total agricultural production was over one-fourth and food production almost one-third greater in 1943 than the average for 1935–39. Agricultural production has established a new record each year since 1939, and some further increase is again in prospect for 1944 despite the difficulties with which farmers have been faced since the spring of 1942.

Farm management men agree that this gain in production can easily be maintained or further increased in the years immediately following the slowing down of the all-out war effort. Yields are increasing as a result of several factors, including conservation activities, the increasing use of fertilizer, and in the case of our chief feed crop, the use of hybrid seed. Small farms can now be mechanized and a substantial number of horses and mules are even now being displaced. This, of course, increases net agricultural production even though the acreage cultivated remains constant. A considerable area of new land is still to be brought under cultivation, and given good prices, it would be difficult to estimate the area now in use which might be more intensively farmed.

The effects of the efforts to control acreage and production under the Agricultural Adjustment Administration have already been argued at length. It seems to me that there is no question but that control can be obtained in cases where the specific commodity situation becomes sufficiently bad. At the same time it should be

recognized that the original effort was to divert land from such commodities as corn, cotton, and wheat to more extensive uses in such a way as to encourage conservation. Such efforts will not restrict over-all production for any considerable period and it seems reasonable to conclude that acreage and similar controls are essentially short-time devices which should be and are only used as a last resort.

The greatest consumer of our agricultural commodities is, of course, our own domestic market. Such estimates as are available indicate that the average per capita consumption of food has been trending slowly upward since 1909, and that it has been maintained at 106 to 108 percent of the 1935–39 average since 1941. Civilian consumption is expected to account for about 75 percent of all agricultural commodities sold or used for food in 1944, and if normal allowances were made for men in the armed forces this would be increased to about 85 percent. That is, assuming current rates of consumption and production are maintained as the armed forces are demobilized, there will be about 15 percent of all our food, as well as substantial quantities of cotton and tobacco, for which additional markets must be found.

The first outlet for these additional quantities of food is foreign relief. We are all agreed that considerable quantities of food and clothing must be available for relief once France and the rest of Continental Europe have been liberated. Shipping space should be available and there is no doubt but what substantial quantities of our food and other agricultural commodities will be used for foreign relief until the reconstruction task is well started.

Sooner or later, however, this relief demand will have been met and farmers may find themselves with greater supplies of some commodities than can be easily sold. Such supplies have already developed in the case of eggs and hogs and some other commodities during 1943–44. If this can happen while we are still endeavoring to accelerate the war effort, it can also happen while that effort is being slowed down or after it has ended. If farm prices are to be maintained at what farmers consider a fair level along with full agricultural production, additional markets or socially acceptable means of disposal must be found.

We were continuously faced with this same problem during the decade from 1930 to 1940. All of you are familiar with some of the devices which were developed. A widespread search for new in-

dustrial uses was instituted. The school lunch program was started and the food stamp and other surplus disposal devices were originated. Still other efforts were made to increase the amounts of the surplus commodities going into the foreign market.

A great deal was learned and we started into this decade convinced that a substantial number of consumers were not well fed, nor for that matter well clothed or well housed, and with a growing interest in that now familiar term, full employment. Substantial amounts of additional food are needed to raise sub-standard diets to an adequate level and the actual results of full employment indicate that the average consumer is willing to use about 15 percent more food than was used during the several years ending in 1929, or the average for 1935–39.

Satisfactory prices for agricultural commodities can best be assured by full employment. At least this is true for almost all of the food commodities although it is evident that satisfactory prices for cotton and some other commodities, perhaps wheat and lard, will also depend to a considerable extent upon the foreign market. Would the prices which farmers and their spokesmen consider as fair be reasonable under conditions of full employment? And what would be the effect of such prices on foreign trade?

So far as fair prices are concerned, the discussion centers around the parity standard. Farmers have wanted parity or something like it and, certain critical comment notwithstanding, it seems reasonable to assume that they will continue to demand parity or its equivalent in the years ahead.

A common criticism runs to the effect that parity prices are stated in terms of gross returns per unit of product—costs, net returns, and the volume factor are all disregarded. Another common criticism is that there is nothing sacred about the relative level of farm and non-farm prices during 1909–14. And a current criticism is that parity does not accurately measure costs, that labor is excluded.

Agricultural economists are well aware of these criticisms and some, at least, are sure that the goal should be parity income rather than parity prices as such. Actually, such a standard already exists but there is as yet no accepted method of translating the over-all income into a series of prices per unit.

Prices serve as a convenient administrative standard and much of the current argument turns around finding some more satisfac-

tory manner of calculating parity prices than that now used. Some would like to maintain the current base as a measure of the general level, while reworking prices for individual commodities on the basis of some recent relationship, and others would like to simply shift the base period forward to 1925–29 or 1935–39. Again, there are others who seem to feel that parity as such should be disregarded and some entirely different approach used.

As an average, parity prices appear to be a reasonable goal given full employment and consumer incomes at least approaching those which have prevailed since 1942.[6] Some revisions are certainly needed, but parity is more than an ethical idea or a set of calculations: it is also a political term and a forceful one at that. As a result, the best forecast seems to be that the parity standard will be continued into the transition years in about the same form as we now know it.

As indicated earlier, Schultz and others are worried about using such a standard while at the same time endeavoring to move American commodities into the foreign market. A discussion of the need for encouraging foreign trade cannot be entered into here, but this dilemma is as familiar as are the two solutions most commonly advanced. The first is the use of some form of a two-price system while the second involves the use of supplemental payments to assure returns to producers, while at the same time allowing the commodity to move forward at a relatively low cost. In fact, there is some current sentiment for supporting returns generally through the use of supplemental payments and abandoning all efforts to support prices at any given level. Some of our foreign trade difficulties, however, could best be solved by full employment.

And after all it is within the nation itself that our difficulties will center as the war effort slows down and we move forward into the

[6] Attention should be called to the fact that this is more than a statement of what farmers want. True the agricultural situation has almost reversed itself since 1939 but Frederick C. Mills states that "the marked improvement in the farmer's terms of exchange since 1939 has been, in the main, a corrective of relatively unfavorable terms existing in 1939," while John D. Black states that "the greater gains that agriculture has made since 1939, and especially since January 1, 1941, seem to be approximately what is needed to offset the relative disadvantage under which it operated in the thirties," and concludes that the rewards of agriculture and of labor could well be maintained at about the same relation to each other as existed in 1925–29. See Frederick C. Mills, Prices in a War Economy, Occasional Paper 12, National Bureau of Economic Research, October, 1943, and John D. Black and Charles A. Gibbons, "The War and American Agriculture," *The Review of Economic Statistics*, February 1944. W. I. Myers and F. A. Pearson also come to about this same conclusion in their analyses, "Food Prices and Earnings of Factory Workers" and "How has Agriculture Fared Thus Far in This War?", *Farm Economics*, April 1944 and June 1944.

search for wider markets and continued full employment. There are difficulties enough with almost ten million soldiers and sailors and over ten million war workers who must shift to new fields of employment, even if we assume that five million of these will be needed to offset the retirement of women and some others from the normal working force and an increase in "frictional" unemployment to a normal level. At the same time, over-time work will be eliminated and the average weekly earnings of workers will be reduced even though their straight time rates are maintained.

All of this and more can be used to document the dismal drift but these very forces also lead to the conclusion that efforts should and, far more important, will be made to maintain fair prices and full employment. Farmers can claim that they have already been assured that their prices will be maintained and workers are not going to be too well satisfied with declining wages after seeing average weekly earnings almost double between 1935–39 and early 1944, especially if prices for durable consumer goods start above those which prevailed when we entered the war and the cost of living index shows no appreciable drop. All of these are forces driving toward a common effort and in addition we will end the war with a national debt far beyond anything imagined a decade ago and this should itself do much to force fair prices and full employment.

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Since I am none too sure as to how well the meaning and general drift of my argument has been stated, it might be of some service to endeavor to summarize it:

(1) Prices for agricultural commodities have all swung upward until they are now about 80 percent above the average prevailing in 1935–39. The main drift or general pattern is striking and the two exceptions are easily noted: Prices for vegetables moved above the general trend in the spring of 1943, while fruit prices were well in the lead in the spring of 1944.

(2) The outlook for the year ahead seems to be for a tightening of supplies, especially for hogs, chickens, and eggs, due to the pressure of the feed situation. But agricultural prices should remain relatively stable with the average level of all prices about 85 percent above the average for the 5 years 1935–39 or about double the average for 1910–14.

(3) Farmers are already assured of substantial aid in supporting prices under the so-called "Steagall Amendment" and the Agricul-

tural Adjustment Act of 1938, as amended by the Act approved October 2, 1942. There is of course, the question of funds but so far there is no reason to believe that Congress will not stand behind the support program.

(4) If prices for the several commodities now covered under the Steagall Amendment and Agricultural Adjustment Act of 1938 are supported at not less than 90 percent of parity for two years after the war, agricultural prices should be close to the parity level through much of the transition period as compared with the 115 percent of parity which they have averaged so far in 1944.

The parity level, of course, will depend in considerable part upon the trend in other prices and the general business situation—that is, prices paid by farmers for commodities used in family living and farm production determine the parity level.

(5) Sooner or later, however, farmers will find themselves with greater supplies of some commodities than can easily be sold and up against the really tough question: Can prices be supported? The answer is yes, provided: *Provided* adequate funds are at hand, *provided* means of storing and disposing of substantial quantities of each of the commodities are worked out, and *provided* production is not forced or maintained too far out of line with the effective demand.

(6) Satisfactory prices for agricultural commodities can best be assured by full employment. As a result, agriculture's goal as we move into the transition or conversion years should be "full production and full employment"—full production and fair prices for farmers and full employment and fair wages on the non-farm front.

SOME FACTORS AFFECTING THE RATE OF RETIREMENT OF FARMS IN THE SUBMARGINAL LAND AREA OF OHIO

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IN THE southeastern third of Ohio are many chronically submarginal farms and some entire farm communities. This section of the state, referred to by some as the submarginal land area and by others as the hill and pasture area, contains all or parts of twenty-eight counties. Most of southeastern Ohio has a rolling to rough topography and residual sandstone and shale soils that are badly eroded. During the pioneer period the land possessed numerous advantages for the self-sufficing farm economy of that day and consequently was incorporated into farms. Under conditions then existing, most of the farms were able to meet the costs of that period. Since then, the numerous changes that have taken place have worked to the net disadvantage of many of the established units. Discontinuance of operation of the adversely affected farms has been slow to materialize and only since the opening of the present century have significant adjustments in land use in the area begun to occur.

During the first forty years of the present century the farms in the area dropped from 86,759 to 73,073 and the land in farms from 8,148,134 acres to 6,949,919 acres. How many chronically submarginal farms still remain in operation in this area is not definitely known. The recent work of the County Land Use Planning Committees in this section of Ohio indicates that as much as one-fourth or approximately two million acres are still in operated farms of this type.

Extensive observations made throughout the submarginal land area of the state in recent years indicate that the retirement of entire farm operating units is being speeded up by some things and slowed down by others. For a time those forces working in the direction of farm unit retirement predominate, and at another time all progress in that direction is either neutralized or overcome by forces working in the opposite direction. An awareness of what these various forces are and how they work is essential if the problems arising from the ever shifting margins of farming and the continued operation of farms after becoming submarginal are to be minimized or eliminated.

Whether the forces speeding farm unit retirement or those working in the opposite direction should be encouraged varies with the circumstances. Where the land is suitable for farming when properly used, those forces speeding up farm retirement should be eliminated insofar as possible and those retarding retirement encouraged. At the same time, in other parts of the area where the land is better suited to forestry and allied uses than to farming, the forces retarding farm retirement should be removed and those hastening it facilitated and encouraged.

Factors Hastening Retirement

Nature and condition of the land. In Ohio a large part of the submarginal farming is being carried on, on land that by its nature tends to speed the retirement of the farms employing it. The combination of topography, soil type, and climate are conducive to soil erosion and favors a type of brushy plant growth. The erosion and brush both must be constantly held in check by the farmer, a task that consumes much of his effort and if neglected, permits nature to put an end to his farming operations.

The productivity of both the crop and pasture land, originally low on most of these farms, has been impaired by farming practices, and low cash income. Present yields leave little or nothing above prime costs that can be used to check the decline in productivity.

Wheat was once commonly included in most cropping systems and served as a winter ground cover. Now it is no longer raised on many farms because of the inability to meet the prime costs due to depleted soils. Instead, the land is allowed to remain bare over the winter following corn, thus increasing erosion. Also the increasing difficulties, costs, and frequent failures in establishing meadows in recent years are discouraging many operators from trying.

Smaller amounts of organic matter are being incorporated into the soil on such farms, causing the water absorbing capacity of the soil to decrease. At present, insufficient soil moisture for good plant growth is common and on those farms where the topography is conducive to erosion, the declining organic matter content is intensifying the situation.

The brush problem, always one to be contended with throughout most of eastern and southern Ohio, has been increasing in acuteness in recent years, more, however, on the less productive than on the better farms. On those farms where little or no effort has been made

in recent years to keep permanent pastures cleared and fence rows under control, the wild plant growth is becoming so dense in the pastures that the grasses are being crowded out, leaving little of value for livestock to graze upon.

Where attempts are made to keep the wild plant growth under control it is done at an increased cost in both money and effort, and even though curtailment of production due directly to it is prevented, the increased cost is leaving less for family living, repairs, and maintenance. In either case the effect is one of hastening final retirement.

Several factors are contributing to the intensification of the brush problem. The declining productivity of the soil and overgrazing has so reduced the stand of desirable grass and meadow plants on many farms that they no longer offer much competition to the spread of undesirable wild growth. Increased field and farm abandonment together with the declining effort to control the brush on farms that are still being operated, are greatly expanding the number of sources and the amount of seed of these plants. The shift occurring on many farms from sheep, which consume numerous weeds and browse on sprouts, to dairy and beef cattle that seek out only the more desirable plants is aggravating the situation. The decreased supply of labor, particularly that experienced in the use of the ax and briar scythe, and higher wage rates are increasing the cost of control at the same time that the declining meadow and pasture yields are reducing the farmer's ability to hire extra labor.

The current passive attitude of many farmers toward the growing acreage of the brush is significant. It is an attitude that can largely be traced to the increasing recognition of the limited opportunities for income from farming such land.

Farm fixtures. Buildings and fences, though old and worn, have until recent years fulfilled their function practically as well in most cases as when new. As long as the barn roof sheds the rain and the walls and doors shut out the winter weather it makes no difference in the quality of the feed stored in it, or the productivity of the livestock kept, whether the barn is new or 100 years old.

Today the building and fence situation on the submarginal unit is hastening the discontinuance of farming by further lowering income and thereby the amount of money available for maintenance and replacement. On many of the farms the fences are no longer stock-proof and it has been necessary to sell some livestock or re-

strict it to a smaller area, or both. If the barn and other farm buildings have not fallen, often they are inadequately shutting out the weather. Grain, hay, and other farm supplies stored in them soon become damaged and the livestock kept in them produces less because of exposure. The interior frames of the buildings themselves and machinery housed in them are deteriorating more rapidly than formerly.

Size of farm. The limited amount of crop and pasture land on many units is making it necessary for farmers to employ exploitive systems of farming to support their families. With the semi-fixed nature of the size of the farm and in many cases the impossibility of economically increasing the farmable area, the inadequacy of acreage is becoming more pronounced and its effect more acute as the productivity declines and the level of living required by the farm family tends to rise.

Too much land is also a factor accelerating the retirement of some farms in southeastern Ohio. In most instances of too much land it is usually a case of too little capital or insufficient ability to manage, or both. Nevertheless, some large farming units are deteriorating as rapidly as the small ones, because of their inability to support the pecuniary type of farm operation that is essential when labor must be hired to properly operate them.

Labor supply. For many years the continued operation of a large number of farms in the submarginal land areas of the state was made possible by an abundant supply of inexpensive farm labor. The farmer's own family, which generally was large, supplied most of the labor. The boys seldom attended school through more than the first six or eight grades and the school term was short, giving opportunity to assist with the farming during the busy season. If a neighbor boy or some one from a nearby village was hired it was at a small wage and the hours were long. Most of the labor was skilled in performing the tasks to be done on the typical hill farm because they were usually put to work as soon as they were strong enough. Generally some member of the family remained on the farm to do the work and care for their parents when they became old, thus one or more vigorous workers were present on most farms.

In recent years (pre-entry into World War II) the situation in respect to farm labor has changed materially. Inability to secure the skilled and inexpensive labor formerly available has made it increasingly difficult to carry on farm operations remuneratively.

Farm families have decreased in size, school terms are longer, daily attendance requirements more strict, and it is necessary to continue in school to an older age. Because of dissatisfaction with local conditions and better opportunities elsewhere fewer young people are remaining to assist their parents when they become too old to do heavy farm work. The local supply of labor available for hire has declined, wages increased, and working hours decreased under the influence of industry, public works, and the generous relief grants. Thus the only source of labor on many farms in the submarginal land areas in recent years is the operator who often is no longer physically capable of doing the strenuous work that is necessary to prevent deterioration in the resources and the ultimate retirement of the farm.

The farm operator. The declining productivity of the operator is an important accelerating force in the rate at which the retirement of farms is occurring. The increased age of the operator is perhaps the greatest contributing factor to this decline. Particularly has this been true since the current attitude of the young people toward local farming opportunities has left the burden of carrying on the farming operations on the shoulders of their parents to a greater degree than ever before.

The average age of farm operators in Ohio has been increased materially over the past several decades and in 1940 was 50.8 years. In 1910, 45.1 percent of all farm operators were under 45 years of age and only 11.8 percent were 65 years or over. In 1940 only 33.8 percent were under 45 years and 18.2 percent were 65 years or over. Among full owners approximately one in four were 65 years or over in 1940. The advanced and increasing age of operators is fairly general throughout the state, however, according to the census it is approximately three years higher in the poor agricultural counties than in the good ones. Furthermore, in the poorer counties local people are of the opinion that there are more elderly operators in the less productive parts of these counties than in the better parts.

Older operators as a rule are more interested in finding ways of reducing work and responsibility than increasing it. The quantity of goods and services required to satisfy most of them is either stable or declining, thus an incentive for greater effort is often lacking. Time is limited for the older operator and less of it can be spent waiting for the fruits of his efforts to materialize than in the case of the younger operator. The lack of time together with insufficient

reserve in many cases to support them in their old age leads to the use of enterprises that yield quick returns, rather than in projects that are soil building but slower to mature.

The net result of the present advanced age of farm operators is that on farms where the work must be performed by elderly people, few changes are made in farming systems and practices that slow down or reverse the trend toward retirement. Many things go undone, the neglect of which speeds up deterioration and the time of retirement.

Selective migration also is lowering the general level of productive ability of farm operators in the submarginal land areas with much the same effect on the rate of land retirement that the declining productivity of soil and capital fixtures are having. Better opportunities elsewhere during much of the past three decades have tended to attract the greater proportion of the younger, more venturesome, ambitious, and the best-trained block of the population, leaving the older more timid, less well-trained and those contented with things as they are, to carry the burden of farming.

The pricing of land. The common tendency throughout the submarginal land area of Ohio, to ask more for farms than they are worth for farming, is hastening their retirement. When the farm changes hands at a price above its productive value, exploitation of resources is encouraged or made necessary, especially when the buyer goes in debt. If no buyer can be found retirement also tends to be accelerated. Owner's continue farming because the failure to sell at a high price leaves them without the means of retiring when they have become unable to farm properly because of advanced age or ill health. Tasks are neglected which quickly brings farming to a stop since nature, when given opportunity, rapidly repossesses the land and reduces the fences, buildings, etc., to a state of ineffectiveness.

An attempt is frequently made to rent the farm while awaiting a buyer. When this occurs deterioration and exploitation almost always develop or are intensified. If little is done with the farm while awaiting a buyer, idleness like neglect, rapidly permits the usefulness of the typical farm in the area to drop to the level where the cost of economically re-establishing farming operations is impossible and idleness merges into abandonment.

Over-pricing is not only accelerating the retirement of the unit overpriced, but in numerous instances is speeding the retirement of

other units by preventing the merging of units that are submarginal because of inadequate size into units large enough to be capable of meeting all of the necessary costs of operation.

The tendency to over-price farms for sale in the submarginal land area is largely traceable to four things: (a) the failure to make proper adjustment for the deterioration that has occurred in the productivity of the farm, (b) the willingness of families employed locally in non-farm work to pay more for residential purposes than the land is worth for farming, (c) the speculative effect of the mineral deposits scattered through the area, and (d) the greater relative part played by sentimental value.

Tenant operation. Farm and field renting from the time of their first introduction into the submarginal land areas of Ohio have generally hastened the retirement of farms involved. Field renting which usually involves the production of a depleting crop is extremely effective in speeding retirement. Crops are sold or hauled to a neighboring farm and fed with little manure returned to the land producing them. Seldom is the land reseeded to meadow by the tenant because of the unprofitableness of small grain nurse crops and the high cost and uncertainty of meadow seedings.

Most tenants, unless they expect to inherit or purchase the land rented, have only a short time interest in it and the fixtures placed on it. This exploitive feature of tenant operation which everywhere is undesirable, is particularly destructive wherever erosion and brush must constantly be kept under control. Also the typical farm offered for rent throughout the area is poorly adapted to the types of farming that are necessary if the resources are to be conserved and the costs met out of returns. Either they are too small to provide adequate volume when a grass-land type of farming is practiced or they lack adequate fixtures to make possible such intensive livestock enterprises as dairying. Consequently most tenants are forced to resort to enterprises that are exploitive in character.

Works Progress Administration. During the lifetime of the WPA, its effect on land use was to greatly accelerate the retirement of submarginal farms. It provided many farm operators on submarginal units with a better income opportunity locally. No special skill was needed. The technique of getting work was simple and it was often unnecessary for the family to move. The rate of pay enabled many to enjoy a higher level of living than they formerly had as farmers. Numerous operators of submarginal farms adjusted

their farming in order to qualify, and as soon as they obtained WPA work practically all attempts to farm ceased. If they owned the land it was allowed to stand idle. When they rented, the owner was often satisfied to receive a cash rental for the use of the house, and the land was either allowed to stand idle or rented to neighbors, either of which quickly leads to the retirement of the farm.

In the second place, retirement was speeded up by the effect of the WPA upon the local labor situation. While it was in operation the workers available for employment on farms were greatly reduced, and their willingness to work long hours or as hard as formerly and for the customary farm wage, was lessened. Employment of the young people on National Youth Administration projects and enrollment in the Civilian Conservation Corps had much the same effect on the labor situation.

Old-age assistance. Ohio's aid for the aged is an important force speeding farm retirement in the submarginal land areas. Numerous elderly operators on the less productive units deliberately plan their operations in order to be eligible to receive as large a pension as possible. This preparation often takes the form of permitting the resources to go neglected to give them an unproductive appearance.

Under the system it is possible for an applicant whose total assets do not exceed $4000 to secure a pension. Most operators of submarginal farms are thus able to qualify when reaching pension age and the pension granted is usually ample to enable them to stop farming. Idleness is encouraged by the fact that any significant amount of income earned by the pensioner is deducted from his pension. As a result when the pensioner is a farm owner, the land generally is allowed to stand idle and the facilities to go neglected since no funds are budgeted for the maintenance of any of the property except the house. By the time the pensioner ceases to occupy the property, nature has often largely obliterated its usefulness for farming.

Factors Exerting a Mixed Influence on Retirement

Movement in of new residents and the return of former ones. The movement in of new and the return of former residents to many communities in the submarginal land areas of Ohio are hastening soil depletion through the more aggressive exploitation that it generally sets in motion. At the same time it is delaying retirement through the reoccupation of idle and near idle units. The immigra-

tion since the first World War from impoverished over-populated areas in West Virginia, Kentucky and adjacent states has had a pronounced influence on farm retirement in parts of Ohio.

These newcomers tend to settle on idle or near idle units primarily because of lack of capital and mistaken ideas regarding the quality of the land. Little difficulty is encountered by them in securing the use of land for large quantities of idle or near idle land are for sale or rent. The method commonly used by the newcomer in obtaining the use of land is to purchase it on land contract and in most cases at prices much above its true worth. Neither the lack of production facilities such as fence and buildings nor the presence of a heavy growth of brush deter many from taking up land already or about to be abandoned by local families. Lack of fence is seldom a factor for few have any livestock; a house built out of poles and roofed with tar paper suffices. If no cleared land exists the brush is removed from some and a crop of corn planted. Seldom is the land sowed to small grain and seeded to meadow because of a lack of equipment and their limited need for meadow and pasture.

The length of time that the farming is prolonged varies but most units are seldom operated for more than a few years. Erosion is usually accelerated greatly. If any timber, cross ties, mine props, or pulp wood are present on the land, they are quickly converted into cash. By the time most families have exhausted the few productive resources that remained when they took over, they have either located sufficient non-farm employment, public work or relief to support them or another piece of land to exploit on the same basis.

The return of former residents to the submarginal land areas, which is most pronounced during periods of unemployment and depression, has much the same effect as the movement in of a new resident from other submarginal areas. Necessity and not the desire to become permanently re-established in farming dictates their return, since most of them deserted the area originally because of dissatisfaction with local farm opportunities. Consequently their interest in the land is temporary with the result that exploitation is practically always renewed or intensified on the land which they reoccupy.

Part-time farming. The growth of part-time farming is having a mixed effect on farm retirement. In some instances it has taken the pressure off of the land and where the farming system is revised to

eliminate further depletion, upon the receipt of supplementary income, the trend toward retirement is checked. In other cases the trend toward retirement is accelerated by the acquisition of outside employment. It hastens the retirement of some units because there is insufficient time to do two jobs well. When one job must be neglected it is the farm, since to neglect the other would mean dismissal. Where part-time farming is engaged in by urban families who move to the country, their farming operations are commonly confined to a few acres. If land in excess of this amount has been acquired by them it is often allowed to become idle immediately or after a few years of not too satisfactory experience renting it to neighbors.

Subsidies. The influence of subsidies on farm retirement varies widely among the different programs that have been and are in operation in the submarginal land areas. Their effect differs materially between farms and communities. Subsidies that meet part of the individual operators costs such as price subsidies, grants-in-aid, relief, etc., are prolonging the use of the land for farming after it ceases to pay its own way. Other subsidies such as those used for road improvement and local education are having a mixed effect. For some farmers improved road and school facilities lessens the disadvantages of the area sufficiently that as long as someone else pays the bill there is little reason to move to more productive fields. On the other hand the breaking down of isolation by these same subsidies has made them major accelerating forces by enabling the people in the submarginal land areas to become more familiar with their alternate opportunities and to become better prepared to avail themselves of them.

The public school system. In many rural communities the public school system is unquestionably a force hastening the retirement of farms. It is providing the basic training that enables the young people to avail themselves of other opportunities. It facilitates the shift by providing the environment and opportunity for students to make contacts, and to develop tastes and desires that stimulate them to seek employment in other fields. Indirectly it is also speeding up the retirement of numerous farms throughout the submarginal land area as a result of the exploitations arising from the efforts of some parents to provide their children with sufficient training to enable them to do something else.

The school system in numerous communities is also a retarding

influence. Many people remain in the home community and attempt to secure a living in whole or in part from farming because the schools do not provide them with an adequate understanding of local conditions and the necessary training and self-confidence needed to break loose from the home environment and do something else. In a very large number of rural communities the school program totally ignores the frequent lack of local opportunity and the need for pointing this out to the individual and for preparing him to meet the situation. It fails to do the things that family, friends, and opportunity for further training do for many of those who leave.

With few exceptions the rural, primary and secondary schools offer instruction only in the basic subjects, which, though necessary, fail to prepare those who have no further opportunity for training for any type of work that requires skill or knowledge in addition to that which they may have secured at home.

No matter how well a boy can read, he cannot secure a job in normal times as a carpenter, an electrician, a machine operator, etc., if he has never had his hands on nor seen the tools of the trade; few of the parents are able to provide this training. Neither are instructions provided on how to seek and obtain employment, nor do the schools sufficiently familiarize the student with the pattern and technique of everyday living on farms in the better agricultural areas and in the urban and industrial centers, to overcome his fears and provide him with enough self-confidence needed to seek better opportunities.

Frequently, the poorer the opportunities are in the community and the greater the need for the school's facilitating the movement of young people into other areas and fields of work, the less satisfactorily the school system is performing this function. Local striving for every possible income advantage in such districts has usually involved the school management in politics, with the result that only local teachers are hired, therefore shutting out much of the opportunity for bringing teachers with wider experience into the district.

Vocational agriculture schools. Instruction in farming supplied by vocational agriculture departments in the submarginal land areas has a mixed effect on land use. In addition to training some boys who become successful farmers, the departments in numerous districts encourage and train some boys to become farmers who, be-

cause of the unsuitability of the land available, have little chance of successfully establishing a marginal or supermarginal unit. In so far as the boys undertake to farm under these circumstances it retards the retirement of such land from farming and at the same time does the boy an injustice.

It is inherent in the way the vocational agriculture schools are organized and function that this should occur. They are financed from funds appropriated for the expressed purpose of training to be farmers, those boys who have some direct interest in farming. Local demand plus evidence of ability to supply suitable space, equipment, and an enrollment large enough to justify the expenditure of funds largely determines the location of departments. Suitability of the land and local opportunities for successful farming only indirectly enter into the location of departments. The teacher is selected by and subject to the dismissal by the local board, hence it is to his interest to in no way depreciate local opportunities or to question the suitability of the land for farming. Furthermore since the continuation of the department and therefore, the teacher's job hinges on maintaining enrollment, students are sometimes encouraged to enroll who have little opportunity to succeed because of the limited farming resources at home.

Vocational agriculture schools are also indirectly hastening the retirement of farms. The failure to fully adjust courses and project work to provide training in the types of farming and farm practices that are adapted to the local conditions is resulting in some of their trainees pursuing farm practices and engaging in types of farming that are either unremunerative, or are depleting the farming resources, or both, thereby speeding up their complete exhaustion and final abandonment. Projects are commonly developed to stimulate interest on the part of the student that can be easily administered by the teacher and fitted conveniently into the farm operations of the boy's father.

Such projects often involve enterprises and methods that cannot be successfully integrated locally into a sound long-time farm organization, but offer the attraction of a quick return of money to the boy. Often projects of this type are directly or indirectly depleting in nature, as many of them involve the production of some clean-tilled crop such as potatoes, corn, or a type of livestock requiring the production of a concentrated feed that is usually depleting in character.

Two other indirect effects of the work are leading to retirement

of land. One is that some boys through their work in the department are discovering for themselves that the local farming opportunities are unsatisfactory, and that their best interest lies elsewhere. The other is, that in spite of the fact that the instructional program is built up to make farmers out of them, it also often makes them better able to do other tasks with the results that their interests are shifted from farming.

The agricultural extension service. Many of the activities of the Extension Service in the submarginal land areas of Ohio are tending more to retard the retirement of chronically submarginal farms than to hasten it, while at the same time a few of their activities are having an accelerating influence. The delaying effect of the Extension Service on retirement of submarginal farms and farming communities is largely due to their efforts to bring about improvements in farming methods and practices wherever farming is conducted without distinguishing between those farms that are capable of being converted into marginal or supermarginal ones and those that are not. Consequently numerous operators of submarginal units are given hope and stimulated to make changes and investments (which at best are incapable of producing sufficient income to meet all essential costs and at the same time conserving the resources) with the result that in the long run retirement is not avoided, only postponed.

The tendency on the part of many extension workers to overlook the lack of suitability of land for farming in their attempt to improve farming methods and practices is traceable to several factors. In the first place, although many agents are aware of the submarginality of a large number of farms and the impossibility of creating marginal units out of them, they continue to assist the operators on these units with their farming, thereby indirectly encouraging them to remain. This is done rather than to attempt to shift the operator into more productive work and the land to other uses. Most of the agents doubt that many submarginal farms will be retired in the near future due to the large number of people that they consider to be dependent upon them.

In the second place, there is a fairly common belief among agents and specialists that there are relatively few farming units which cannot be made into marginal or supermarginal ones, if handled correctly. This belief grows out of their observations of the results that some of the farm operators with whom they work, have secured on some very unproductive units by employing the correct

farm practices and types of farming. Therefore, the opinion of the agent and specialist tends to be that since it has been demonstrated that submarginal units can be transformed into what appear to be to be marginal or supermarginal ones, it is not a hopeless situation but rather a challenge to them to do all they can to assist other farmers to bring about the needed changes. If little progress is made, they are inclined to question their own techniques and to look for new methods of approach, rather than to re-examine the local farming resources and the people themselves.

In the third place, the county agent is selected by and subject to the dismissal of the local people. Inasmuch as the local people tend to measure the success of the agent largely by his efforts to increase farm income rather than by the number of people guided into more useful and remunerative lines of economic activity and the number of chronically submarginal farms shifted into more suitable uses, the agent so shapes his program. In fact numerous local vested interests often look with disfavor upon any activities that would tend to reduce local population, land values, etc., and that might in any way reflect upon the home county.

Most significant of the activities of the Extension Service that are hastening farm retirement are the recent projects in County Land Use Planning and certain phases of the 4-H club work. The former focuses the attention of many local people and others on the unsuitability for farming of many farms and entire communities. The latter speeds up retirement in at least two ways: first, by better preparing the members for, and stimulating them, often indirectly, to seek other opportunities, thereby contributing to the out movement of youth from such areas; second, through the exploitive effect of much of the project work. Expediency, ease of administration, and the desire to interest a large number in club work results in many of the projects being of a type that directly or indirectly are soil depleting and that fit poorly into any sound long time land use program for such areas. Too little emphasis is placed on projects that would enable the young people to see the local needs in their true prospective.

Factors Retarding Retirement

Farm security administration. The rehabilitation loan phase of the FSA is primarily a retarding influence on farm retirement. Their clientel in such areas are generally families who, for various reasons, have been forced out and desire to get back into farming

or if still farming, their unremunerative operations are causing extreme hardships, which if not relieved, will eventually force them to cease operations.

To a very large extent the farming units available to or occupied by FSA clients in the submarginal land areas of Ohio are in sections designated by County Land Use Planning Committees as unsuitable for farming or if in suitable land areas, the units are small or poorly equipped. Generous loans enable many to re-equip themselves and continue farming for a while longer. Leniency toward repayment, easy renewals, supplementary loans and grants-in-aid for subsistence further delay adjustments. Many clients would find it necessary to quit in a short time if payments in full and on time were required.

Local pride and vested interests. The frequent unwillingness of local people and communities to recognize the local land use situation, to accept and support a course of action that will lead to its correction, has slowed up the retirement of submarginal land from farming. Seldom does a public reference to the unproductiveness and submarginality of much of the farming in southeastern Ohio and the benefits that would accrue from the retirement of such sections from farming go unchallenged by local editors, politicians, and others.

Local support for land use studies has been increasing and many local people have participated in them in recent years, but not without some misgiving. Recommendations for a shift to less farming in areas considered unsuitable for farming have not been strenuously objected to when accompanied by suggestions for improving and expanding other local means of support for those who reduce or quit farming.

In spite of this changing attitude, local pride and vested interests are still retarding land retirement. The fact that the opportunity to sell land and the price at which it can be sold generally decreases as more land is retired is important. Interspersed, abandoned farms depreciate the value of those remaining and drive out potential purchasers. The local merchant, banker and professional man whose volume of business depends upon the number of local people look with fear on a declining population. Political interests are concerned with the loss of constituency, redistricting for state and federal representatives, the probable reduction in local revenue, and in the decrease in number of public jobs.

The total effect of these varied interests is to prevent programs

from taking shape and to make ineffective through lack of active support those that are brought into existence, which are intended to encourage and help people on submarginal farms to avail themselves of better economic opportunities elsewhere. On the other hand, the activities of the Farm Security Administration, the Soil Conservation Service, the lime and fertilizer program of the Agricultural Conservation Administration, the work of the vocational agriculture school, the county fair, the farmers' institute, 4-H club work, and the extension programs designed to improve local farm income have the approval of local interests, and receive much active support from local people, community leaders, local editors, business men and politicians. This approval and support is forthcoming because it appears that such things lend encouragement and assistance to local farming, and thereby maintain the base on which their own existence rests.

Instability of the economic system. Lack of stability in our national economy is probably the most important single force retarding the retirement of land from submarginal farming. The extreme fluctuations from periods of national prosperity with full employment and high wages, to national depression with widespread unemployment and public relief, to which our economy has been subjected slows up and often reverses the trend toward retirement.

A large number of chronically submarginal farms continue in operation because of the fear of their operators of the insecurity attached to most of the non-farm opportunities open to them. Although the level of living secured is low, they are reasonably certain of what they can expect so long as they continue farming. They have witnessed the plight of some of their friends who left the land, took work elsewhere, and returned destitute not knowing where their next meal was coming from.

Depression and unemployment reverse, sometimes for long periods, the trend toward farm retirement as many families are driven back to the land in their search for security. Some re-establish farming on units already retired; others move in with parents or friends and contribute their labor and capital for expanding the farm operations; the less ambitious seek less costly living arrangements, move into empty houses, do a little gardening, and pick up any income obtainable from relief or occasional employment.

The infrequent and brief periods of prosperity experienced by agriculture often rekindle enthusiasm for farming on units that

are marginal or supermarginal only during short periods of favorable price and cost relations, and submarginal the remainder of the time. Young people who do not dislike farming, are often induced during such spurts of prosperity to establish themselves in farming. Others already in, invest more capital in permanent and semi-permanent fixtures that require continued operation for many years to extract. Thus brief periods of remunerative prices prolong the operation of some submarginal units for many years.

DR. NOURSE ON LOW-PRICE POLICY: A REVIEW*

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DR. E. G. NOURSE has for some time been a chief exponent of low-price policy by American industry. By low-price policy, he means (p. 131) primarily the long-run "reduction of consumer prices as the means of making the attainment of technological gains most fully possible." In *Industrial Price Policies and Economic Progress*, Dr. Nourse (with Horace B. Drury) undertook to analyze the constructive principle of price reduction as practiced by certain "pace-makers" in the industrial world. That book concluded with a challenge to business leaders to "generalize" throughout the whole industrial system the low-price policy toward which these "pace-makers" had pointed the way. In his present book, Dr. Nourse probes further into the means by which and the extent to which such generalization is practicable.

With refreshing honesty, he makes explicit at the outset (p. 25) his own personal "bias"—namely, "a belief in the long-run superiority, in terms of high efficiency and lower social cost, of democratic private enterprise as against plutocratic or bureaucratic centralization of power." But he as readily urges (p. 49) that, "whatever the shortcomings of modern proposals for experiments in the exercise of government business control or operation, they must be recognized as the democratic expression of a demand for economic well-being for the masses which has not been achieved by the prevailing system of private enterprise."

I

Perhaps the most thoughtful and thought-provoking part of *Price Making in a Democracy* is found in the first third (Part I) of the book, which lays down the fundamental principles upon which his case rests. Here Dr. Nourse seeks to reinterpret those basic tenets of "the American way"—free enterprise, competition and the profit motive—in such a way as to show how modern large-scale industrial organization might be (not "has been") reconciled with the general welfare. In Chapter I, he rejects the views of both those who "look longingly toward partial or complete restoration

* *Price Making in a Democracy*, Edwin G. Nourse. Washington: Brookings Institution. 1944. Pp. x, 541, $3.50.

of the low-level safety of spontaneous price-making under small-scale competition" and those who wish to transfer direction of our large-scale economic system primarily to "the provident state." He finds that most of our industrial price making is neither automatic nor authoritarian, but falls in the intermediate position of this imperfectly competitive world—"administered prices." Thus, "administered prices" emerge as a middle-of-the-road pricing system and the major problem one of assuring that industrial prices are "administered" in the public interest, which he identifies with the long-run interest of institutionalized business.

In re-examining the doctrine of "free enterprise" (Ch. II), the author expresses his belief (p. 39) that—since the transition from a status to a contract society—the gain in freedom has been steadily emphasized while the shift in responsibility has been frequently overlooked. As a result, private business has insisted on *laissez faire* without undertaking "much corporate responsibility for maintaining employment, productivity, and subsistence for the group attached as laborers to its plant or line of production" (p. 41). Yet "government can let business most severely alone when business is embodying and achieving most freely and fully the enterprise of all potential workers and aspiring consumers" (p. 47). Thus, if they are to enjoy continued freedom of action, the proponents of private enterprise must accept the same major goal as those who would enlarge public enterprise, while giving, "in the interest of high productivity," the largest scope possible to individual enterprise all down the scale of participation and not merely to those at the top.

Turning to prevailing concepts of "competition," Dr. Nourse asserts (p. 79) that "the significant question is not the form of competition, but the results it produces." He willingly accepts the goals of the economist's "pure competition" but discards this doctrine as an impracticable and even undesirable method of attaining these goals. His principal grounds are two. First, business organizations sufficiently small in scale to meet the requirements of pure competition could not possibly have the knowledge of evolving techniques and broadening market horizons which steadily-growing productive efficiency demands (p. 63). Second, such a concept, by reducing the economic process to a purely automatic response to the economic environment, "is the antithesis of competition in the aggressive, innovating, adventurous sense in which it is ordinarily

used. The only real expression of business enterprise is imperfect competition. Its essence is found not in the standardization of goods but in their differentiation, not in the complete mobility of market situations but in certain non-fluid or not immediately transmissible characteristics" (p. 59). Therefore, at the very heart of our present system of monopolistic competition is "reasoned and intricately purposive action," whether for social good or evil, on the part of the executive hierarchy responsible for administering industrial prices. The author concludes that the real need is that business men should accept the *goals* of classical competition as their own, while evolving and perfecting *methods* more congruous with modern large-scale industrial organization and management.

The reviewer found Chapter IV, "Profits and the Profit Motive," especially interesting. For surely our present economic theories of profits and entrepreneurship are in a highly unsatisfactory state as applied to modern corporate enterprise. Dr. Nourse is orthodox in his emphasis upon profits as the means of motivating entrepreneurship toward the attainment of a more efficient or better directed flow of business activity. But his treatment is iconoclastic in tying profit motivation even more closely to personal participation (wages of both management and technological proficiency) than to profit participation. Thus, he points out that, "with the institutionalizing of corporate business, the equity capitalist has been removed from active management about as completely as the lender capitalist" and has assumed more and more closely "the role of mere lender whose active connection with his capital ceases with the committing of it" to a purchase of corporate shares (pp. 90, 92). Hence, "the corporate manager (or management hierarchy) is much more really the custodian and strategist of business enterprise than is the owner of any class of capital, even equity capital" (p. 94).

In Dr. Nourse's analysis, then, the real role of differentially superior returns to the firm emerges as the stimulation of the exploring, experimenting, innovating activities of business managers and technicians who accept—indeed seek—the responsibility of directing the private enterprise system. Here, Nourse emphasizes the importance of including many salaried or even wage workers considerably below the level ordinarily classed as management. Thus, gains of progress should be shared with those persons through whom such gains are brought into the company's operations—persons who would have been individual entrepreneurs under a simpler state of technique and organization and who still have

jurisdiction over areas of enterprise within larger corporate aggregates. In fact, Dr. Nourse insists that giving pecuniary motivation and recognition to such contributions is, under advanced corporate industrialism, more essential to economic progress than motivating and facilitating cumulative "profit" acquisitions by a restricted class of capital owners. In stressing the "constructive" aspect of profit motivation rather than its "acquisitive" aspect, he notes: "The profit motive thus utilized creates new sources of income and means that profits are derived from the enlargement of total product, not from subtractions from the incomes of other participants in the economic process. Instead, such profits may be linked with simultaneous enlargement of the real incomes of others" (pp. 97–98). This calls for a long-time perspective in business thinking—"a disciplined, far-seeing employment of the profit motive."

The author closes Part I by relating these principles of widely disseminated profit motivation, competition "cooperatively exercised," and freedom of each man's enterprise in its functional sphere, however tiny, to the concept of "democracy as an economic principle" (pp. 133–140). He argues that only as the scheme of business organization provides democracy of opportunity and democratic dissemination of rewards can our productive system attain maximum efficiency. On the labor side, widespread and persistently recurring unemployment negates the whole idea of economic democracy; the responsibility for *uninterrupted* "freedom of opportunity" to work is placed squarely upon the shoulders of industrial and union management. As for capital, the withholding of productive property from labor's use "as a means of exacting a predetermined rate of return to certain individuals or to a propertied class" means economic administration as "an aristocracy of wealth," not democracy of economic effort or resource use. Finally, economic democracy demands that consumption be recognized as a means to the end of efficient production. The professional management of private enterprise can convert widespread consumptive needs into commercial demand in the market only by keeping prices at the lowest practicable level through capacity operations, more price appeal and less salesmanship, and producing more plain but serviceable goods within the reach of the masses.

II

Having laid down these broad principles, with which few economists will probably disagree except in details, Dr. Nourse turns in

Part II to examine some of the practical problems which face professional management in carrying such principles into current practice. This part of the book considers what changes in thought and practice would be involved if professional managers were to generalize the low-price policies of such innovators as Ford, Firestone, Filene and others, rather than be completely subservient to the "standard costs" of the accountant (pp. 372–376), the inelastic demand curves (based on historical high-price policy data) of the statistician (Ch. VII), and the high-pressure salesmanship of the advertising specialist (Ch. VIII)—all of which are too frequently used simply to rationalize a policy of price maintenance. Dr. Nourse urges (Ch. IX) business management to recognize more generally that wages are not only a cost but a market and argues the importance of a general low-price policy in maintaining this market through increasing real wages and continuing full employment. At the same time, he calls upon labor management to reconsider its historical policy of taking its gains from technological progress in the form of higher wage rates rather than as lower prices or fuller employment.

He quite properly rejects (Ch. X) the deflationary theories of the "price flexibility" enthusiasts in the declining phase of the business cycle. But, he also warns business leaders that if, in prosperous times, they simply "charge what the traffic will bear," they will jointly bring about the "rainy day" for which they are preparing. In fact, the "normal" time for making price reductions is in the upswing of the business cycle so as to minimize wage inflation, reemploy the victims of technological progress and achieve maximum production (quantitative efficiency) as well as maximum productivity (qualitative efficiency, or the most skillful use of particular units).

With special application to the coming postwar period, he presses business leaders (p. 331 ff.) to accept "full employment" as their criterion of price policy on the grounds of self-interest: "Putting the employment criterion in a purely incidental place—if not actually rejecting it—leads to the eventual restriction of profit-making opportunities for capital." Furthermore (p. 319 n.), "business men cannot be said to have been true economizers if their making of company profits is accompanied by low utilization of plant and large amounts of unemployment."

In Part III Dr. Nourse concludes with a statement of "Pros-

pects." He states his belief that "our economic system, through the independent and spontaneous[1] action of individual managers, could be turned from the business practices of the past, with their emphasis on short-run profits even at the expense of production restriction and unemployment, to one of high and sustained activity through low-price policy" (p. 392). To do so they must use modern scientific approaches to the economic problems involved, comparable to those already introduced in the technical phases of business. But the "science" of such "economic statesmen" must rest much less upon the *coeteris paribus* "tricks of measurement" of the economist, statistician or accountant and more upon the synthesizing, comprehensive, essentially non-quantitative approach of a general-equilibrium analysis.

The author then recognizes (Ch. XIII) that the attainment of a goal of generalized low-price policy may depend upon some synchronizing and coordinating body beyond the individual firm or industry. Here he considers only *private* leadership associations, pointing to the Committee for Economic Development with favor. He concludes (p. 416) with the implied hope that such an association as the U. S. Chamber of Commerce or the N.A.M. might "eschew price maintenance and restrictionist ideas or policies and . . . Promote efforts in support of active business and maximum production, even when the evident corollary was lower prices and moderate though sustained profits." In his final chapter (XIV), Dr. Nourse emphasises his fundamental premise of "economic solidarity"—the common concern of all parts of the economy in maximum production (p. 423). This economic solidarity may best be served if a few strategically-located industries (p. 425 ff.)—automobiles, steel, aluminum and electrical goods—will henceforth exercise vigorous and skillful low-price leadership, buttressed by competent low-price followership by the rank and file of business. In this way, the wide gap between administration of the firm and administration of the economy might be successfully bridged.

III

Price Making in a Democracy accepts as a *fait accompli* the dominance of large corporate and labor aggregations in our modern

[1] Dr. Nourse's frequent use of the word "spontaneous" in this context would appear to be unfortunate. By it he apparently means "voluntary." But the word suggests the automatism of a new Invisible Hand which he specifically rejects.

capitalistic system and the "administered prices" which such aggregations make inevitable. But "administered prices" of necessity mean executive responsibility. Hence, the survival of private enterprise depends upon the extent to which business and labor executives are willing *consciously* to chart a course of price practices which is in their own interest but with adequate consideration of the long-run consequences (as a part of the total business situation) in fully utilizing the nation's labor and capital resources.

Thus, running throughout Dr. Nourse's book is a theme[2] which might be stated, at least half seriously, in Shakespeare's words:

> "O, it is excellent
> To have a giant's strength; but it is tyrannous
> To use it like a giant."

It is to the author's credit that he does not stop at the semi-colon.[3] Rather, he urges a low-price policy as the way of harnessing such "excellent strength" in the public interest. With professional management in the driver's seat, modern private enterprise will stand or fall according to the scientific knowledge, breadth of vision, social responsibility and experimental skill which this small but influential group can muster.

The reviewer would agree that, since (hierarchically speaking) professional management is the group possessing the most intimate and up-to-date knowledge about both economic and technical possibilities, it is here that the soundest adjustments could be effected. But, even so, he feels that Dr. Nourse may exaggerate somewhat the freedom which professional management enjoys in inaugurating independent innovating courses of action based upon individual personal economic philosophy. The most outstanding examples of independence of action in business management which come to mind are found in those firms, however large, in which the dominant personality controls a majority of the stock. For example, Henry Ford's well-known phobia against bankers and "outside" stockholders may be far more than a personal eccentricity. The dead hand of business (and financial) conservatism, which Ford has so assiduously avoided, is certainly a very powerful force conditioning the response of business managers to the economic environment.

On the other hand, the reviewer feels that Dr. Nourse has put his

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[2] See, for example, op. cit., p. 65.

[3] He explicitly renounces (pp. 325 n., 126) the "religion of wealth"—maximum capital formation for its own sake—of a Carl Snyder (Capitalism the Creator).

finger (pp. 464–465 n.) upon a key weakness of current economic theory, namely, its tendency to lead us "to fall back upon deterministic studies of 'market situations' in whose fell grip the executive is conceived as but a robot." This economic determinism is suggested by Prof. E. S. Mason's aside that, "while the personality of Firestone . . . has no doubt been an important factor, it seems probable that if Firestone, like God in another context, had not existed the structure of the tire market would have created him." How then explain the fact that, "in the face of industry-wide unanimity that prices of postwar automobiles will be from 15 to 40 percent above 1942 prices, Mr. Ford says he sees no reason for higher prices and doesn't think his will be higher"?[4] Or the present fear and trembling in the agricultural implements industry as a result of Mr. Ford's wartime invasion and in assorted industries at the prospect of a Henry Kaiser?

In current price theory, the shift in emphasis from the competitive to the monopolistic aspects of our economy and the almost deterministic role of the entrepreneur have tended to produce a widespread belief that high-price policy is inevitable.[5] And prevailing employment theory, by centering attention upon underconsumption and the lack of extensive new investment opportunities—with the entrepreneur transformed from a pioneer into a "timid soul" who shrinks from bearing any substantial risk—has supported the view of a "stagnant economy" and the necessity for permanent government spending.[6] In a sense, both theories preclude, either by their postulates or their emphasis, adequate consideration of Dr. Nourse's alternative solution of full employment—"the seen hand and Guiding Brain" of professional management, enabled by the very fact of separation from ownership to pursue low-price policies and bold business experiments. Certainly, the author rather effectively avoids the methodological biases inherent in recent theories of monopolistic competition and employment.

IV

At the same time, however, Dr. Nourse skips over too lightly some of the problems of monopoly and the attainment of full em-

[4] "The Ford Heritage," *Fortune*, June 1944, p. 140.

[5] Nicholls, William H. "Social Biases and Recent Theories of Competition," *Quart. Journ. Econ.* Vol. 58 (1943), pp. 1–26.

[6] Otto von Mering, "Some Problems of Methodology in Modern Economic Theory," *Amer. Econ. Rev.*, Vol. 34 (1944), pp. 87–97; Bissell, Richard "Post-War Private Investing and Public Spending," (in Post-War Economic Problems, Seymour Harris, editor, 1943), pp. 83–91.

ployment which these theories, however inadequately, were designed to solve.

For example, although he looks upon the tendency of competition in a price-cutting sense to run to excess (p. 58) as one of its practical shortcomings, he does not suggest how the professional manager of one of several dominant firms in an industry—a manager more social-minded than the rest—can alone follow a low-price policy without loosing the evils of true "cutthroat" competition. As the reviewer has argued elsewhere,[7] low-price leadership may be more difficult where there are several dominant firms than where there is only a single one. And, while the reviewer considers the author's insistence upon the importance of the *income* elasticity of demand in addition to price elasticity of demand fundamental to wise industrial price administration, he does feel that Dr. Nourse is carried away with his own persuasiveness in exaggerating (Chs. VI and VII) the potentially *general* "responsiveness of demand" to low-price (high real income) policies.

In his early chapter on competition, "pure competition" (while deservedly maligned as a practicable criterion) serves as a straw man which exaggerates the author's apparent dissent from current price theory. Professor Chamberlin, for example, did not consider "pure competition" an "ideal" in a world of monopolistic competition, even though the careless rank and file of economists may have done so. Rather, he specifically recognized that consumers do prefer a certain degree of variety (differentiation) rather than a perfectly standardized product. What he insisted upon as "a sort of ideal" was that product differentiation be accompanied by aggressive pricing so that non-price competition would not be carried to excess.[8] It is not clear that Dr. Nourse's "low-price policy" is essentially different from Chamberlin's "sort of ideal."

Dr. Nourse's principal advance beyond much of current price theory is his attempt to get business management to take what the economists call a "general-equilibrium" rather than "particular-equilibrium" approach. It is certainly to be hoped that there are a considerable number of industrial leaders with the intellectual acu-

[7] Nicholls, William H. Imperfect Competition within Agricultural Industries, Iowa State College Press, 1941, pp. 145–46.

[8] Chamberlin, E. H. Theory of Monopolistic Competition, Harvard University Press, 1936, p. 94. Chamberlin's position on this point was obscure and has frequently been misinterpreted. But it was very satisfactorily clarified by Cassels, John "Excess Capacity and Monopolistic Competition," *Quart. Journ. Econ.*, Vol. 51 (1937), pp. 426–43.

men and business ability to assume so global a role. But it is surely asking for "giants among men"! True, in 17 pages of interesting insets, the author presents the words of some of the more enlightened business leaders of our times—Alfred P. Sloan, Paul G. Hoffman, Edward A. Filene, Charles E. Wilson, Eric A. Johnson, Henry Ford, et al.—in whose hands the reviewer would agree that the future of private enterprise might be most secure. Even so, Dr. Nourse appears to accept at their face value too many vaguely-worded statements of business methods and goals. For example, it is difficult to reconcile General Electric's slogan, "More goods for more people at less cost" (quoted with approval on p. 118) with its policy of *reducing* the life of a flashlight bulb so that it would last only as long as one flashlight battery rather than three![9]

The fact is that Dr. Nourse's major thesis is essentially as revolutionary for our times as was Adam Smith's in 1776. While Dr. Smith prescribed gall and hemlock (with admirable success) for the old regime of merchant capitalists, he had only sugar-coated pills for the bouncing young industrialists of his day. To the descendants of those early industrial leaders, however, Dr. Nourse finds it necessary to prescribe medicine of a more disagreeable kind. His presentation might have been improved had he indicated a fuller awareness that his own industrial patients may be less cooperative than the good Dr. Smith's. In cases of rather severe illness, even the best of bedside manners may have its shortcomings!

V

Except for a single chapter (Ch. X), Dr. Nourse focuses his attention upon economic progress as a long-run trend, not upon the shorter-run "disturbances" of the business cycle. Such an abstraction has its usefulness if only for the fact that those prophets of doom who bewail "secular stagnation" are still with us. As Professor Bissell has so aptly put it, "Though the strongest advocates of public spending agree readily that economic policy in other directions *should* be designed to minimize the need for it, spending often covers up failure on other fronts and is used to excuse it."[10] The reviewer does believe that, *if* industrial management were willing and able to apply the author's principles of low-price policy consistently and generally, reasonably full employment might (in the

[9] Reported by Stigler, George J. "The New Welfare Economics," *Amer. Econ. Rev.*, Vol. 33 (1943), p. 358.

[10] Bissell, *loc. cit.*, p. 84.

absence of the business cycle) be maintained satisfactorily. He would most assuredly hope that business could itself be given the opportunity to "prime the pump" of consumer purchasing power through steadily rising real wages before we resign ourselves to any form of *continuous* government spending.

On the other hand, Dr. Nourse's attitude concerning the importance of the business cycle is somewhat puzzling. Thus, he distinguishes between the "fundamental forces which operate continuously" and "the disturbances of the so-called business cycle." But may not the forces underlying the business cycle—including the jerkiness of that technological progress which he stresses so much—be just as fundamental, and perhaps even more important in threatening continuous full employment and thereby private enterprise itself? Dr. Nourse considers the business cycle largely as a datum by which business leaders might guide the timing of their price changes. But here and there he seems vaguely to imply that the fulfilment of his recommendations would not only mitigate the business cycle (which the reviewer would readily admit) but might largely eliminate it as well. True, in a rejoinder (p. 534) to Dr. C. O. Hardy's dissenting addendum, he does limit the probable effects of low-price policy to "mitigating disturbances and helping to sustain operations on a higher average level." But this limitation is nowhere apparent in the main body of the book. Accepting this limitation, his criticism of those, even among business men, who look upon "a government underwriting of employment . . . as a guarantee of sustained markets which makes business commitments safe" (pp. 339–340) appears somewhat unrealistic.

This brings us to our final point of contention. Perhaps the greatest weakness of this book is its complete omission (p. 362) of any consideration of the role of government in implementing or even making possible the generalization of low-price policies for which Dr. Nourse contends. He regards government "as a residual issue whose dimensions and appropriate method of treatment can be determined only after we have pushed as far as possible the line of attack embraced under low-price policy for the individual firm." On the negative side, it can be said that government simply will not be allowed to wait upon industry, however unanimously it might rally 'round Dr. Nourse's standard, to put his recommendations into effect. This is especially true if, through the fault of either governmental or industrial policies, we fail to make the postwar

transition without serious and sustained unemployment. Hence the importance that government follow fiscal, labor and business policies consistent with such a low-price policy.

Even more important, on the positive side, the reviewer is willing to argue that low-price policies cannot possibly be generalized, however wise and farsighted a few business leaders, without *the most effective and thorough-going coordination* by some agency. It is doubtful if American industry could itself pull together sufficiently generally to support an effective private agency for such a purpose. And, even if it could, the reviewer—not to mention an alert electorate—would refuse to permit so powerful an aggregation to remain in exclusively private hands. It is at least conceivable that, with sufficient demand and support from American business and labor leaders, a public NRA-in-reverse might be created to serve this function of coordination and active sponsorship of general low-price policies. Any resulting "codes" should be subject to the approval of the Department of Justice. A major advantage of direct government representation—apart from its protection (should we say presumably?) of the public interest—would be that anti-trust, fiscal, labor and other policies might then be used to implement rather than to hinder the objectives entailed. Dr. Nourse might have been more realistic as well as constructive, had he at least considered what positive role the government might play in "saving private enterprise."

VI

Any shortcomings which this book may have are attributable, in very large part, to the boldness with which Dr. Nourse has come to grips with one of the most crucial and difficult problems of our times. This book is most assuredly worth the painstaking and thoughtful consideration of every economist and business man. The fact that he has directed it to both audiences will mean that much that appeals to either group will dissatisfy the other. But if he succeeds in convincing more economists of the existence of a considerable area for the exercise of "free will" (for social good as well as evil) on the part of business management and if he influences even a few more strategically-located business leaders to be bold conditioners rather than the less-adventuresome conditioned in pushing for generalized low-price policy, he will be deserving of a hearty "Well done!"

ADDENDUM: FROM ANALYSIS TO PREDICTION

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I WAS much gratified that the task of reviewing my book was assigned to such competent hands as those of Professor Nicholls. He and the editor have graciously offered me the opportunity for a "rejoinder." In fact, however, the points to which I could take any exception are few and of such a character that it seems much more appropriate to label my commentary simply "addendum."

Reviewers are prone to let their own preoccupations carry them beyond the limited objective which an author sets for himself and to chide him for not dealing with the issues in which they find themselves most interested or to impute to him views in areas which he refrained from entering. Thus Professor Nicholls finds "perhaps the greatest weakness of this book its complete omission of any consideration of the role of government in implementing or even making possible the generalization of low price policies." This view is shared, I am aware, by other readers. Some of them are convinced that any adequate solution of our basic problems must be sought along fiscal policy lines; some, on grounds of both logic and history, that large corporate units must be disciplined more rigorously from outside sources like the Department of Justice and regulatory boards and commissions, there being no hope of their becoming soundly disciplined from within.[1] Professor Nicholls evidently has outstanding commitments to both these beliefs that make him rather dubious about a book that fails to deal in any way with these alternative or complementary proposals for the solution of fundamental business problems. He accordingly imputes to me an "exaggerated" belief that business can meet the challenge of the postwar period along such lines as I have here expounded, though I had supposed it was evident that I was limiting myself to analysis and not indulging in prophecy.

Several minor points raised in the review will doubtless prove interesting and stimulating to others as they have to me. But the basic issue between public responsibility and control and private

[1] In the September issue of the *American Economic Review*, Professor Stocking says: "Optimism with respect to the widespread, voluntary and continuous resort to low-price policies by business managers who possess the *power* to formulate and execute such price policies as they deem wise, seems to me to find little justification in theory or experience."

adjustment is the only one to which there seems occasion for me to address myself in this addendum.[2]

Professor Nicholls goes pretty far and fast in his prophecy that "government simply will not be allowed to wait upon industry, however unanimously it might rally round Dr. Nourse's standard, to put his recommendations into effect." This could, of course, be said the other way round: "Business will not, in fact, be allowed a reasonable interval in which to master and demonstrate self-adjusting administration on the level discussed in this book." The implication of what Nicholls says seems to be that, *whatever businessmen may do* in this transition period, it will be found inadequate in the court of public opinion. He may be right, but pre-judgment of the issue by the public might preclude the giving of a fair trial to the private type of solution. I was not engaged in either proving or disproving the thesis that businessmen will do certain things in the postwar decade. I was concerned with the much more limited task of trying to ascertain whether there is a logic of management that is compatible alike with the commercial success of the individual firm and the effective functioning of the economy.

[2] What implications for cycle theory grow out of my analysis is a question much too far-reaching to touch on here. I am puzzled that Professor Nicholls finds "somewhat puzzling [my] attitude concerning the importance of the business cycle" on the ground that I distinguish between the "fundamental forces which operate continuously" and "the disturbances of the so-called business cycle." He himself made a similar distinction two sentences before when he gave assent to the idea that low-price policy consistently and generally followed could maintain reasonably full employment "in the absence of the business cycle." For my part, I believe that the recurrent ups and downs of business are products of our pricing practices quite as much as they are of the technological changes which define the successive problems with which price policy must deal. Nicholls suggests that the "jerkiness of technological progress [is] just as fundamental [as] 'forces which operate continuously'." It is quite proper to say that the perennial character of technological change makes it a "fundamental" force in our economic process—but an intermittent rather than a "continuously operating" force.

I must protest against Nicholl's assertion that I "consider the business cycle largely as a datum by which business leaders might guide the timing of their price changes." I think the analysis of Chapter X runs definitely to the effect that the policy maker should guide price changes by the occurrence or the attainability of technological improvements and translate them into price reductions in season and out of season. Realistically, one has to recognize that the possibility of effecting unit cost reductions depends also upon the possibility of capacity operation (which is not good during periods of depression) and of ease of sale (which is great during boom periods). Hence, though the principle underlying low-price policy operates continuously without regard to technological (or fiscal) influences which may be injected from time to time, the possibilities of its practical application will undoubtedly vary. The reader may be reminded that the last sentence in the book, (in rejoinder to C. O. Hardy's comment) says: "What I intended to say, and what I strongly believe, is that high-price policy operates to aggravate such aberrations of business, and low-price policy would operate in the direction of mitigating disturbances and helping to sustain operations on a higher average level." Nicholls' expression "eliminate *the* business cycle" [italics added] seems to me a dangerously loose phrase.

To the reviewer's fear that I "exaggerate somewhat the freedom which professional management enjoys in inaugurating independent innovating courses of action based upon individual personal economic philosophy," it might be replied that one can hardly be convicted of having exaggerated a factor as to whose magnitude he has not hazarded any estimate or been concerned in trying to measure or appraise. I expressly stated at various places that the extent of administrative jurisdiction over prices (including wages) is sometimes large, sometimes small, but that, whatever may be its magnitude in the given case, the principles governing its wise exercise are the same. It was some functionally correct criterion of action in situations alike of weak and of strong control that I was seeking. The reviewer seems definitely to agree with the author as to the theoretical importance of this discretionary factor, as is shown in his reference to E. S. Mason and the possibility that Ford and perhaps Henry Kaiser will clash with the automobile conservatives after the war. What really is bothering him is, apparently a doubt that the managerial principles I suggest are in fact practically workable. Two points are to be noted here, one touching my concept of responsiveness of the general market, the other the possibility that low-price policy among industrial giants would mean "cutthroat" competition.

Here we come to the most significant, and most subtle, aspect of the issue raised by Professor Nicholls' charge that I exaggerate the business executive's power of innovating a constructive price-making procedure. In my experience, the businessman, whatever his place in the administrative structure, is not much disposed to argue that he has no significant ability to effect sound adjustment of prices because of institutional restraints. But he is strongly disposed to argue that the profit margin is already so narrow that any practicable reduction would be of almost negligible importance. He magnifies the strength of competitive forces and their constricting power over his field of action.

Of course the question of actual and possible cost-price relations is one of fact, to be determined on the merits of each special case. I am not recommending reduction in prices in the absence of a technological gain (although I suspect that economic claustrophobia in the matter of profit margins is a widespread occupational disease among price-making executives). But to accept the industrialist's own answer on this issue is to accept his accounting practices as well as his general economic philosophy. My argument is not di-

rected to showing the price administrator that he is following a course which is less profitable in the short-term situation or in one abstracted from a time perspective. Primarily I am concerned in directing his consideration to the long-run disappointing results even for himself as a participant in the economy if short-run gains are pursued too assiduously or risk of short-run loss abhorred too strongly.

The business manager cannot dispose of this issue by presenting his books showing a slender margin of profit under conditions of low utilization of capacity, high market promotion cost, and traditional depreciation and depression reserves. My whole analysis constitutes a challenge to those who maintain the necessity of piling up profits against anticipated depression, or maintaining high rates of capital formation inside the corporation, and asserting the necessity of high rates of profit as a means of assuring requisite rates of savings on the part of the public. Evidence drawn from conditions of substantial unemployment and inhibited investment is not significant or reliable as to what would happen under conditions of confident or unrestrained operation. Economists are pretty generally agreed, on theoretical grounds, as to the possibility of fairly sustained general equilibrium on a plane of incompletely used resources. My analysis implies dissent from the "mature economy" argument of some theorists that this impasse can be broken only—or best—by a policy and practice of public spending, but it challenges directly the defeatist view among businessmen that they cannot break it by practicable practices of private enterprise. I argue for the venturing of capital under a strategy of "calculated risks" that is patently safer for business as a whole than is protective witholding.

Professor Nicholls' belief that I may have exaggerated "the potentially *general* 'responsiveness of market demand' to low-price (high real income) policies," will quite possibly find some support among both economic theorists and statistical technicians. In this part of my analysis—which centers in Chapter VII—I have challenged the pertinence and credibility of co-efficients of elasticity of demand as derived from the correlation techniques currently in use. In lieu of that apparatus, I set up a concept of organic responsiveness—for which no equally impressive apparatus is proposed, nor is it, I assume, possible to devise.

Economists who question the possibility of demonstrating general expansibility characteristically handicap the attaining of a useful answer by putting the question in the conventional formulation of

"elasticity of demand" which moors it to certain premises of mechanical ratio that preclude its real solution. I am convinced we can give much more vitality to our results through other approaches even though we display a much less imposing apparatus and offer no such "elegant" formulations. The ultimate "responsiveness of demand" is the willingness of the total labor force to apply itself to productive labor for the satisfaction of its wants. Communism goes with simple directness to this pattern of economic performance, as does individual enterprise on the plane of self-sufficing agriculture. Co-operative associations aim at somewhat the same goal under more familiar patterns of corporate organization and market processes. I do not think I have been "carried away by my own persuasiveness" when I reason that general demand would respond under a proper handling of price relationships by expanding up to the point where workers in general preferred leisure to more goods and services. That is what general responsivenss of demand means, and it connotes a level of production and general consumer satisfaction far above anything we have been accustomed to.[3]

It is in coming to grips with this question that I have laid myself open to the charge of over-optimism by those economists and their fellow citizens who have decided that, because men organized in the business units, big and little,[4] which we have had in the past have failed to discern this fundamental economic philosophy or establish those commercial procedures, it will prove still to be impossible in the future. I am content to let those who find investigation or speculation about government intervention congenial to their minds go on pursuing it. But meanwhile I have thought that my time and some Brookings funds would be better spent in inquiring just what conditions would have to be met if we are to make private capitalism a permanently acceptable pattern of economic life. Only if it is clear that these requirements transcend the power of fulfillment possessed by the available personnel would we be jus-

[3] This is a broad issue on which the present book is, I hope, provocative, but on which it is not, I concede, conclusive. The matter goes down to the very roots of business incentive and economic motivation in all their ramifications. I hope to be able in subsequent journal articles to explore one or two phases of it and sincerely trust that many of the rising generation of scholars may feel moved to demonstrate their industry and originality along these lines of inquiry rather than "gild the refined gold" (or dross) of ever more intricate and more bemusing price-volume correlations and ever more complex and more "elegant" marginal-revenue marginal-cost equations.

[4] It should be borne in mind that big units are not the only bad actors in the economic sphere. The protective devices of "little fellows" operating through trade associations, special legislation, and "small business" crusades have been as definitely restrictive as have been the "controls" exercised by big business. See p. 73 f.

tified in fleeing to the ills we know not of in government management of the economy.

The reviewer's fear that low-price policy on the part of one of several dominant firms would "loose the evils of true 'cutthroat' competition" is based upon a misapprehension of my position. In the passage in Chapter II to which he refers, I was arguing that small-scale competition exposes the untutored, unorganized, and inadequately informed individual to mass hysteria and speculative mania which might result in "the wild bidding up of prices or the feverish liquidation of property regardless of the longer-run value." Large-scale organization, with professional specialization, lessens these dangers but carries the counter danger of weakening the competitive urge by which technological progress is disseminated. As I have pointed out in this early chapter, the businessman is likely to call it "cutthroat" competition as soon as a strong competitor follows a price policy which impairs asset values based on monopolistic price enhancement or maintenance. But that the inauguration of low-price policy by the professional management of one of a small number of dominant firms in an industry leads to what Nicholls calls "true" cutthroat competition seems to me contrary to the logic of the situation. Such managers know actual costs under a range of technological and volume conditions as fully as they can be ascertained and have the power to exercise a strategy based on controlled movement which is the antithesis of the stampede seen under atomistic competition. "True" cutthroat competition would appear to mean either elimination of less efficient rivals or suicide of the price-cutting firm which had gravely miscalculated the economic consequences of its pricing program.

There does not seem to me to be any inherent reason why the advent of large-scale organization or the attainment of an oligopolistic position means either that price competition should cease or that if inaugurated, it should be carried to stupid and destructive extremes. If I may resort to analogy, neither the "champ" nor the contender need pull his punches or, on the other hand, descend to mayhem. Determined but "scientific" boxing is an intermediate concept and practice which has a strong appeal to the sense, the skill, and the sportsmanship of contenders as well as spectators. And, since some have found me derelict in my treatment of the governmental setting of the business contest, I am glad of this opportunity to pay my respects to the obvious need of Marquis of Queensbury rules and the indispensable services of the referee.

Professor Nicholls suggests that my prescription "is essentially as revolutionary for our times as was Adam Smith's in 1776" and deprecates my unawareness of the possibility that my "patients may be less co-operative than were the good Dr. Smith's." This caveat he tops off with the pungent observation: "In case of rather severe illness, even the best of bedside manners may have its shortcomings." This is indeed a rapier thrust, at which I am bound to cry "Touché!" In fact, I had a good chuckle over that sentence because it so brilliantly illuminates the whole problem of analytical and expositional tactics with which I was struggling. It condenses into two words of tolerant and satirical comment a quite understandable and probably more or less widespread reaction to the results of my efforts. "Bedside manner" indeed!—For I was definitely trying to couch workable but highly exacting principles of company management in persuasive terms.

I infer that Nicholls does not object to treating a patient humanely or even appealing to "his self-interest as a perennial and dependable spring of human conduct, as true today as it was in Adam Smith's time" (p. 449). I suspect that his allusion to the inadequacy of this approach "in cases of rather severe illness" reflects his own fears (may I say prejudgment?) that private capitalism cannot be brought to a satisfactory plane of performance through any foreseeable deepening of the understanding of economic forces or quickening of the motives of individual responsibility on the part of private executives. It must be relieved of malign growths by the surgeon's knife and/or be braced up by orthopedic appliances or depend for further locomotion on a governmental wheel chair.

Clearly the difference between author and reviewer on this issue is one of relative emphasis rather than positive disagreement. Just because I am here engaged in trying to show that the need for surgery and the necessity for mechanical patchwork can be greatly reduced by better understanding of the rules of health, observing a better regimen of exercise, rest, and diet, and more attention to preventive medicine (pp. 149, 307), it does not follow that I am unaware of the values of curative and repair devices of emergency sorts. But I do maintain my position stoutly as to the importance of the area which I have elected to cultivate, and Nicholls' last paragraph indicates that in this view he concurs, even though he becomes impatient that I have not been "more realistic as well as constructive by considering what positive role the government might play in saving private enterprise." No single book can possibly

cover public as well as private aspects of this vast problem, and I thought it better to deal somewhat intensively with the particular sector which it appeared to me was being inadequately investigated while a great host of economists are giving their enthusiastic attention to the public sector. I specifically recognized that my analysis "must remain in some details incomplete until it is carried through the adjacent area of public policy and governmental action.[5] [But] the more fully self-discipline promotes sustained prosperity, the less will be the urge for regulatory action on the part of government, or for compensatory spending, programs of relief or income supplementation, and the reformatory taxation which accompanies these undertakings" (p. 443).

Returning now to the reviewer's comparison between the laissez faire philosophy of Adam Smith and my own doctrine of managerial responsibility, I am not quite sure how I should have displayed a "fuller awareness that [my patients] may be less co-operative than were the good Dr. Smith's." I do not see that the exposition would have been strengthened by interpolating more frequent observations to the effect that I was aware that businessmen were not accustomed to think in these terms or would probably not in any considerable number recognize the validity of the analysis or accept the self-discipline necessary to carry it into effect. A diligent bibliographer could I think find an impressive list of citations showing my awareness of the disparities between my interpretation of satisfactory private enterprise and prevailing interpretations of "the American way." A fair sample may be taken from page 446, where I said:

> "Numerous quotations from business leaders presented at various places in this book indubitably put business' best foot forward. Businessmen who hold a different view appear less inclined to be outspoken about it at the present time. One such voice has, however, sounded from a very high quarter recently: 'Rather than talk glibly about accepting responsibility, let us try to fulfill the responsibilities which we have, in the faith that thereby we shall all learn the ways of a material organization in which every man gets what is squarely coming to him. By that I mean each gets the equivalent of what he produces—that is the American ideal.'"

But, finally, how optimistic am I as to the possibility of developing a socially acceptable private economic leadership within the time which will presumably be available? In the first place, it does

[5] I discarded a nearly completed chapter on "Private Price Policy and the Role of Government" because it involved me in too many dicta on issues outside the scope of this book's analysis.

seem to me that the philosophy of management which I have outlined presents to the manager of the individual firm (and his counsellors or co-managers all up and down the line) a basic principle of pricing (and its related entrepreneurial activities) which affords a real guide to individual firm action. If consistently followed,[6] it could be expected to give us not only a system that did not break down but one which would command a wide measure of popular support. Second, in my files and in my head I have a mass of evidence that seems to me impressive as showing any open-minded student that businessmen have a growing understanding of and allegiance to these principles (without taking either the liberal or the reactionary utterances of individuals on each particular occasion at face value). Third, just how fast these views are spreading or whether postwar situations will produce a recrudescence of older patterns of thought, no one can say. Nor can we know how much time will be allowed for the working out of a solution such as I have outlined. I judge that popular demand runs strongly to quick and comprehensively operative government remedies. The requirements upon executives under a satisfying scheme of private organization are exacting. The tides of education move slowly, whereas the winds of popular demand blow fast and hard.

Of course, I have no assurance—and not too much confidence—that time will be granted for business executives to learn the fundamental requirements of their job on a professional plane, and to perfect an autonomous scheme under which these responsibilities will be discharged. But I feel that it is still the obligation of the scholar to pursue without the distraction of contemporary clamors his analysis of what would constitute the most satisfactory—that is, both efficient and free—system for organizing our economic life.

[6] Followed, that is, as an actively reasoned and consciously applied logic of management, not as a mere behavioristic response. Professor Nicholls makes the very acute observation that my referring to this as the "independent and spontaneous action of individual managers is unfortunate since the word 'spontaneous' suggests the automatism of a new Individual Hand, which [I] specifically reject." I am surprised that Professor Stocking (September *American Economic Review*) failed to get this distinction in view of my closing section, "The Seen Hand and Guiding Brain," which ends with the sentences: "The hand that directs such activity is seen and very human. The process is conscious and must be guided by sincere study of the principles of economic production, not merely the tricks of personal acquisition" (p. 449). Professor Nicholls suggests the word "voluntary" instead of "spontaneous." I recall that in writing the passage he quotes, I discarded "voluntary" for "spontaneous" to use a word that conveyed a more positive sense of action springing from within the administrative agent. The lexicographers give support for this precise shade of meaning, but since it evidently misleads readers on the very point on which I wish to be clear, its use was, I agree, unfortunate.

NOTES

SOME DEFECTS IN THE ANALYSIS OF FARM MANAGEMENT DATA

THE analysis of farm management is a task which involves the use and application of economic theory, statistical techniques, accounting procedures, and the personal judgments of the analyst. In view of the complexity of the problems involved, it is not at all surprising that differences in opinion would arise as to the methods of analysis and to the "soundness" of the results obtained. Most, if not all, of the "methods" of analysis which have been developed have been subjected to severe and at times devastating criticism.[1] What is surprising is the continued use of defective methods. Not infrequently articles and bulletins appear which give no indication whatever that the authors have been benefited or influenced by the torrent of criticism which has been directed against the methods of analysis they use. From a careful reading of the literature on farm management, it would appear that the defective methods now in use have two common origins: the concept of the farm as a business unit and of the law of diminishing returns.

Although many, if indeed not all, farm management analysts recognize the farm as a "going concern" or an active business unit in which things are seldom if ever "static," yet most analysts appear to overlook this fact when actually engaged in analytical work.[2] If this view of the farm as an active business unit is correct, it follows that the farmer or manager must at all times try, to the best of his ability and knowledge, to use his farm resources in the most effective manner. In doing so he may, and beyond any doubt does, make mistakes, often serious ones. But such errors are not made deliberately. They arise from his incapacity to foresee just what is going to happen to such things as the prices of farm products, the price of cost goods which he must purchase, and to his inability to adopt the most effective farm techniques and practices. But no farmer in his "right senses" is going to misuse deliberately the resources over which he has control. If the manager makes too many mistakes and continues to do so over any extended period, he will be forced out

[1] See, example, Benedict, M. R. This JOURNAL, Vol. XIV, Nos. 3 and 4; Schultz, T. W., Vol. XXI, No. 3; Case, H. C. M. and others, Vol. XXI, No. 1; and Black, John D., Vol. XXII, No. 3.

[2] Schultz, T. W., indicated this in his "Theory of the Firm and Farm Management Research," this JOURNAL, Vol. XXI, No. 3.

of business. He may, it is true, gradually deplete his resources and thus continue in farming for a considerable period, but eventually he will be forced to become a tenant or a farm laborer under more efficient management than he himself can develop, or perhaps give up any active participation in farming.

Assuming that what has been said is substantially correct, then the problem resolves itself into how the farmer will allocate the resources over which he has control to the various enterprises which may be available to him. The selection of the enterprises which are to compose the farm business and the extent to which each will be developed will depend upon many things but essentially the following: (1) The prices which will prevail for each product when it is ready for sale, (2) the relationships among the enterprises or how they fit together in a scheme of production, (3) the prices of the cost goods to be used, and (4) the techniques and practices to be employed.

As the farmer conceives all of these things, not as individual items but as a collective whole, he in fact decides at least tentatively how his resources are going to be allocated to each enterprise. The principle which he employs in this allocation is known as the principle of equi-marginal returns. This means that, insofar as it is possible to do so, the farmer will allocate his resources so that the last unit applied to each enterprise will yield the same net returns per unit. If this feat can be accomplished he will obtain the maximum net returns for the use of his resources.

The second major defect (and one definitely related to the first) in the analysis of farm management data arises out of the analyst's conception of the law of diminishing returns. In many cases the analyst either ignores this law, or his conception of it is too limited to be of any use to him.

It has been pointed out that the farmer tries to allocate his resources to each enterprise so as to obtain equi-marginal returns. In his effort to do this, the farmer, even if the analysts do not, recognizes the law of diminishing returns. True, he may not recognize it as such, but he does know from experience that yields do not increase in direct proportion to the input factors. The farmer realizes that production can be increased but usually at a diminishing rate. However, he goes much further than this in his thinking. He will, indeed must, make some calculations, and often remarkably accurate ones, as to whether or not the added output will pay its cost. Thus,

he compares the value of the added output with the cost of the added unit of inputs.

Calculations of this sort, however, seldom if ever satisfy the farmer. If his object is to obtain highest possible maximum net returns for a given enterprise, then he will add input factors until the last unit just pays for itself. But it is obvious that this objective with relatively fixed resources is defective if the farmer is seeking the maximum net returns for his farm as a whole. In this case, he will distribute his resources to his various enterprises in such a manner that the last unit of inputs will yield the same net returns for each of the enterprises which compose his farm business.

There is ample evidence that farmers use this principle of equi-marginal returns in the organization and operation of their farms. If, for example, a farmer is asked why he did not use more fertilizer per acre on Crop A, as recommended perhaps by the Experiment Station, he may reply that it would not pay to do so. Or if asked why he did not grow more of Crop B than Crop A he would reply that, in his opinion, conditions did not warrant such action. Or, again, if he is asked why he did not use a given practice or implement than those employed he would reply that for his conditions the ones used were preferable. In short, he has, to the best of his knowledge and ability, allocated his resources to the various enterprises in such a way as to obtain equa-marginal returns and hence the maximum net income for the farm business as a whole.

It is obvious, of course, that in any given case this objective might not be attained. The extent to which it is attained does not depend upon the principle, but upon the farmer's knowledge of prices, costs, and the effectiveness of various farm practices and implements in using labor and other resources. As his knowledge of these things increases he will be able to apply this principle more effectively.

It is not a difficult task to illustrate these defects in analysis from published material. Figure 1, showing the relation between yields and costs, represents a case in which the analysts completely misunderstand the law of diminishing returns and ignore the conditions under which it operates. Since the cost per unit decreases, as the yields increase, the authors conclude "It is fully realized (*sic*) that if an attempt were made to increase yields indefinitely a point would finally be reached where the increase in yield would no longer pay for the added cost. Occasionally, a man may make expenditures

on some part of his production that are not warranted by the returns they bring, *but as shown by Figure 1 farmers generally have not yet reached that point in the production of crops.*"[3]

This last statement is unwarranted from the data presented. The regression line fitted to the data has no significance other than that of showing the average relationship between yields per acre and cost per bushel. It certainly does not indicate diminishing productivity. The reason for this is that each dot represents an individual farm about which nothing is known as to the behavior of the output

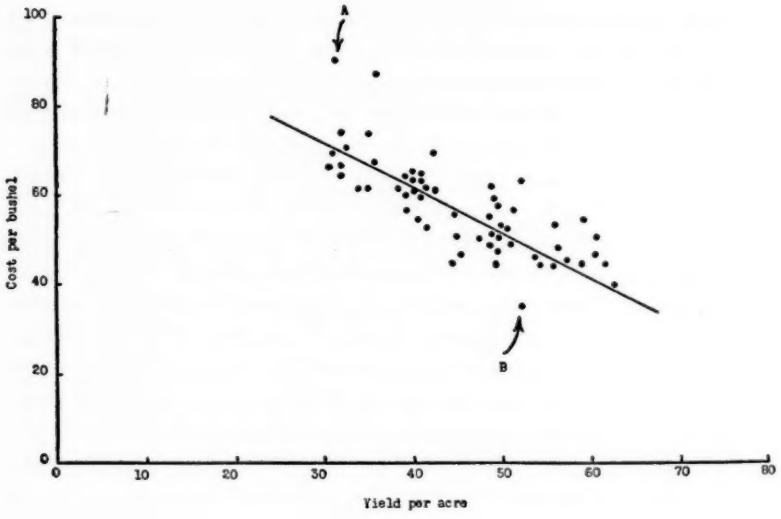

FIG. 1

as inputs are increased. It cannot be said that Farm A which is a relatively high cost farm could reduce its cost per unit by any attempt to increase yields, or that Farm B would be better off if an attempt were made to change its yield per acre. Thus the conclusions of the analysts are fallacious and for the following reasons:

1. Each farm is an individual unit, the conditions of which are not adequately described. There is no reason to suppose that any attempt to increase the yields on a given farm would not be accompanied by increases in costs per unit of output. That such a result would be obtained is based on the fact that as the units of input are

[3] University of Illinois Agr. Experiment Station Bulletin 329 Revised, p. 263. See also Maine Agr. Experiment Station Bulletin 424.

added the output will increase, but not as rapidly as the input factors. So, therefore, it would be expected, certainly under conditions of diminishing returns, that the cost per unit would increase with increasing output.[4]

2. It is also obvious that each farm is operated differently. The various farmers use different practices, the soil is not necessarily uniform, nor are the input factors homogeneous. To obtain reliable results with respect to the relationship between output (yields) and input, these things should be uniform in character.

3. Equi-marginal returns for a given enterprise could not possibly be the same for all farms where conditions differ with respect to soil, practices and particular combination of enterprise which the farmer considers to be a part of his production plans.

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[4] This would not necessarily hold if on any given farm the crop in question were of minor importance in which case the level intensity would be relatively low.

COMPUTATION AND USE OF OUTPUT UNITS IN FARM BUSINESS ANALYSIS

THE purpose of this paper is to describe the calculation and use of output units, a measure which may be used in analysis of size of business, labor and capital efficiency, and production rates in farm management studies. An output unit as here developed is a common denominator of farm production. By using this measure the total physical production of a farm business (crops, livestock, livestock products, and outside work) can be expressed in one figure.

The output unit is similar to the productive man work unit in that both measures are based upon average labor requirements. Output units differ from work units[1] in that output units describe the quantity of farm production rather than size of the working plant.

[1] In using work units, conversion to comparable figures for different farms is made possible by use of the concept of the amount of working plant the average farmer handles in ten hours. One work unit is made equal to the average amount of productive work accomplished in 10 hours measuring productive work in terms of acres and numbers of livestock cared for. The work unit, by the nature of its computation, gives no attention to variation in rates of production. The same credit in work units is given for a cow producing 4000 pounds of milk as is given the cow producing 6000 pounds. Work units are usually interpreted in light of yields and livestock production rates.

An output unit is the average amount of any farm product produced in 10 hours. The quantity of a product equal to one output unit is calculated by use of average crop yields, average rates of livestock production and growth, and average labor requirements. As with work units, the area on which averages are based is the state. The number of bushels of oats equal to one output unit in New York, for example, was figured as follows. The ten year average yield of oats in New York (1930–39) was 29 bushels. The average time required to produce and harvest an acre was 16 hours. Therefore one output unit (amount produced by ten hours of work) $=29 \div 1.6$ or 18 bushels.

Quantities of livestock or livestock products equal to one output unit are computed in a similar manner—average annual production per animal divided by average labor requirements. With a table of output units for all farm enterprises such as is given for a few products in Table 1, the number of output units represented by the

TABLE 1. NEW YORK OUTPUT UNITS FOR SELECTED ENTERPRISES*

Product	Output Units	Product	Output Units
Small grain, per 100 bu.	6	Milk, per 100 lbs. butterfat	7
Hay, per ton	0.8	Milk, per 100 lbs. 3.8% milk	0.25
Apples, per 100 bu.	9	Eggs, per 1000 dozen	15
Potatoes, per 100 bu.	6	Heifers, per head	2
Tomatoes, per ton	2	Beef, per calf raised	3

* Adapted from Scoville, G. P. and Warren, S. W., Labor Requirements for New York Crops and Livestock, A. E. 462, Cornell University, October 1943. Labor Requirements For Crops and Livestock, by Cooper, Holley, Hawthorne, and Washburn, U.S.D.A. Mimeographed Report F.M. 40, May 1943, is recommended as a source of information for other states.

production of each enterprise on a farm can be calculated. Thus once a table of output units is established for a state the number of output units produced by a farm business can be figured as easily as work units are calculated.

The total output units for a farm tell the number of 10 hour days of work that would be required under average conditions and production rates to produce the year's output of this farm. In other words this measure reduces total production to units of a 10 hour day's output of farm commodities under average conditions.

Output units were devised to compare total production as well as efficiency of production on dissimilar farms of differing sizes, type,

and resources. A comparison of output on similar farms is a relatively simple matter. A comparison of production on two strictly egg-producing poultry farms, for example, can be accomplished in terms of dozens of eggs. But when crops and other livestock enterprises enter the picture on diversified farms a basis for converting output to a common concept or unit is needed. Such a unit is also needed in comparing outputs on farms of widely different types within the same or in different areas of the state or nation.

The outputs of different farms with dissimilar enterprises have been compared in terms of the dollar value of the year's farm production. Either a physical unit of output or an index of output[2] has the advantage over the dollar as a unit in that price fluctuations do not obscure the true quantity of production.

Output units alone give a measure of accomplishment for a farm in terms of amount produced. From a comparison of output units and work units on the same farm, a measure of crop and animal production rates can be derived. Total output units divided by total work units gives a production index for the farm—a measure of the number of units of output per unit of physical plant. For example, Farm B (Table 2) had 1213 output units and 867 work units, or an overall farm production index of 140 ($1213 \div 867 \times 100 = 140$). For purposes of farm business analysis, the crop production index and the livestock production index are probably of greater use than the over-all farm production index. Output units on crops divided by work units on crops gives a crop production index. This index serves much the same purpose as a crop yield index. For livestock there is not in common use a measure of over-all livestock production rates. Output unit analysis makes it possible to calculate such an index measuring collectively the production rates of all classes of livestock on the farm business under analysis. Calculation of this index is relatively simple once work units and output units for the livestock enterprises are summarized. If desired, a separate livestock production index could be calculated for each class of livestock by dividing output units for the class by work units for the same class of livestock.

In measuring efficiency, output units may have broader application. Output units per man (total output units divided by man equivalent) express the number of 10 hour days of production with

[2] An index of output has been computed by weighting total work units by an index of production. Cunningham, L. C., and Becker, C. A. Cornell University, have used such a measure.

which each worker on the farm may be credited. In effect this is a measure of the physical quantity of production per person. For many purposes, work units per man may be superior to output units per man in measuring the efficiency of labor alone. The farmer's labor efficiency, commonly thought of as quantity of work done, is more closely associated with numbers of livestock cared for and acres of crops produced than with rates of production. Output units per man, because it measures quantity of production, is a joint product of quantity of work done and the quality of the work, the animals, and the land as reflected in production rates. Hence output units per man may be either high or low as compared to work units per man, depending upon production rates. Of course, output units per man do not explain why accomplishment per worker is high or low. As with many other measures, further analysis is necessary to isolate causal factors.

In New York the unit of output was originally devised for analysis of factors affecting profits on farms in less productive land areas of low income. In this analysis output units per man were more closely related to income than were work units per man because small differences in production rates were so important. Output units were further used to compare efficiency in the use of factors of production other than labor.

Output unit analysis has also been used to compare output-input relationship on farms in different land class areas. It was thought that such comparisons might provide a factual basis for allocation of scarce production factors of labor, machinery, equipment, and fertilizer—should such an allocation become necessary. Although other means of comparing output on farms of different sizes, types, and resources are available, the output units analysis does indicate in one figure the relative levels of production per worker, per dollar input of total capital, fertilizer expense, etc. In using other factors such as work units for this purpose a second factor of production rates must be introduced in interpretation.

An example of the use of output units for analysis and comparison of two New York farms in widely different soil productivity areas is given in Table 2. Farm A is a relatively unproductive hill farm located in an area of land class II.[3] Farm B is a fertile valley farm located in an area of land class VI.[3] Farm B has almost

[3] Refer to New York State land class areas. Land class I is least productive and land class VI most productive. Both land classes I and II are judged as not being adapted to permanent agriculture.

twice as large a work unit base as farm A with 867 as compared to 444 work units. In terms of output units, farm B had 1213 or more than three times the 382 output units of farm A. When labor efficiency was compared in terms of work units per man, efficiency was about one and one-half times as great on farm B as on farm A. But because production rates were almost two-thirds greater on farm B than on farm A, output units per man average 404 on farm B as compared to 163 per man on farm A. Thus in terms of output units, efficiency was about two and one-half times as great on farm B as on farm A.

TABLE 2. AN EXAMPLE OF THE USE OF OUTPUT UNITS AND OTHER MEASURES IN COMPARING AND ANALYZING TWO NEW YORK FARM BUSINESSES*

Analysis Factor	Farm		Farm	
	A	B	A	B
	Work Units		Output Units	
Size:				
Units on outside work	28	0	28	0
Units on crops	84	314	75	440
Units on livestock	332	553	279	773
Total units	444	867	382	1213
Efficiency:				
Units per man	189	289	163	404
Units on crops per $100 fertilizer expense	140	132	125	185
Units per $1000 total capital	77	27	67	37
Production Rates:	Output units÷work units			
Crop production index	89	140		
Livestock production index	84	140		
Combined production index	86	140		

* Farm A is located in an area of land class II, is larger than most businesses in the area with 20 cows, 51 acres of crops, a man equivalent of 2.35 and a total of 294 acres operated. 5105 pounds of milk were sold per cow and per acre crop yields averaged 1 ton of hay, 40 bushel of oats, and 6.4 tons of corn silage. Farm B, located in an area of land class VI, has 34 cows, 119 acres of crops, a man equivalent of 3 and a total of 242 acres operated. 9027 pounds of milk were sold per cow and crop yields averaged 2 tons of hay, 58 bushels of oats, and 13.5 tons of corn silage.

In measuring labor efficiency in this case, conclusions would not be altered by using work units instead of output units. In regard to the efficiency with which fertilizer is used, however, output units per $100 fertilizer expense give the decided advantage to farm B. Whether or not the fertility program on either farm was proper cannot be judged from this analysis.

In efficiency of use of capital, farm A has more work units and even substantially more output units per $1000 total capital than has farm B. Farm A operated on a minimum of capital investment of only $5876 with real estate valued at only $10 per acre. Farm B. however, represents a total capital investment of $32,438 with real estate valued at $85 per acre (1940 values). If these two farms were typical of the two land class areas, one would conclude that output per dollar invested was greater in land class II than in land class VI. Actually farm A was well above average for the area and had 28 days of outside work (which required no capital investment) counted as output.

While the output unit may need further refinement, the measure can be used as a common denominator of all farm production. Its computation need be no more difficult than the calculation of work units. Its use is probably best adapted to comparative analysis of dissimilar farm businesses where physical measures of output in terms of bushels, pounds of milk, meat, cotton, dozens of eggs, etc., cannot easily be combined into one over-all measure of production.

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FOOD CONSUMPTION PROGRAMS AS A PART OF A FARM PROGRAM

PROFESSOR SHEPHERD'S stimulating paper[1] in the preceding issue of the JOURNAL points out the need for a change of emphasis in the post-war farm program. He urges greater attention to expanding food consumption and less to restricting food production. I agree heartily with Professor Shepherd that such a change is needed. But I believe Professor Shepherd has greatly underestimated the possible effects of such a program upon farm income. This, I think is very unfortunate. I think most farm leaders already underestimate the value of a food consumption program as an essential part of the farm program. I am afraid that the net effect of Professor Shepherd's paper may be to convince them (and I believe, incorrectly) that farmers have much less to gain from consumption subsidies than from parity payments, soil conservation payments, and similar direct payments to farmers.

[1] Geoffrey Shepherd, "Changing Emphasis in Agricultural Price Control Programs." This JOURNAL, August 1944, p. 476.

Direct Effects of Food Consumption Subsidies

Most of Professor Shepherd's analysis of the effect of food consumption programs upon farm income is in terms of tracing the direct effects of the money spent by the Government. Essentially, he says that if eligible families or persons are spending X dollars for food, and if the Government supplies them with Y dollars' worth of food, or food stamps, we can expect the following: First, that these families or persons will now spend *less* than $X+Y$ dollars for food, so the increase in food expenditure will be less than Y; and, second, that not all the actual increase in expenditures "gets back to the farmer: some of it stays in the distributive system."

Professor Shepherd accepts a U.S.D.A. estimate that about 75 percent of the money spent on the former Food Stamp Plan represented an actual increase in food purchases by participants, and that most of this "got back to the farmer." He states that "the percentages of the Federal expenditures on other distribution programs—direct distribution, the school lunch program, the penny milk plan, etc.—that got back to the farmer were probably considerably lower than the 75 percent estimated for the Food Stamp Plan."

I question the assumption that when the eligible groups spend X dollars for food without the plan and the Government supplies Y dollars of food purchasing power, the food expenditures of participants are necessarily less than $X+Y$ dollars. True, the U.S.D.A. report on the Stamp Plan estimated that only $\frac{3}{4}$ of the subsidy represented increased food expenditures by the participants. But, contrary to Professor Shepherd's statement, some of the other distribution programs were probably much *more* efficient than the Stamp Plan in raising the food expenditure of participants. For example, in March 1941, the SMA supplied through the School Lunch Program commodities with an estimated retail value of $4\frac{1}{2}$ million dollars. Local sponsors contributed enough more to make the total value of the lunches something between 5 and 6 million dollars.[2] The 5-cent milk program in Washington, D. C. appears to have increased the actual cash expenditures of participants (the X in our equation) by about 40 percent.[3]

Anyway, we are not so much concerned with attempts to measure

[2] H. M. Southworth and M. I. Klayman, "The School Lunch Program," Miscellaneous Publication No. 467, October 1941, U. S. Dept. of Agr.

[3] William G. Sullivan, "The Relief Milk Distribution Program." BAE mimeo. publ.

what some of the past programs *have* contributed to food expenditures as with how much *might* be contributed by the best sort of program which might be devised. We certainly should grant that it is impossible to measure either of these with any degree of accuracy, but we can at least analyze the principles involved. Our purpose is to raise the food consumption of participants. If we simply hand out food, cash, or food stamps we have no assurance of any substantial increase in food consumption. There are two main ways of attempting to get participants to use the food subsidy as a net increase in food purchases; first, a minimum purchase requirement, and, second, by making it attractive for participants to buy more than the minimum. Both were tried under the former Food Stamp Plan. Doubtless the criteria for minimum purchase could be improved. Also, in my opinion, too little attention has been given to the fact that a large percentage of participants bought *more* than the required minimum.

If the participants' demand for food is elastic any program which allows him to purchase foods at a reduced price will induce him to spend more than he would have spent without the program. If the difference in price is made up by a Government subsidy, the total food expenditures of participants will increase by more than the subsidy. It is at least possible that a program similar to the Food Stamp Plan might operate well with no minimum purchase at all, but with a rate of free stamps which is properly graduated in relation to purchased stamps.

I see no reason for assuming that "in the long run about half of the Federal expenditure on all distribution programs combined would get back to the farmer." As Professor Shepherd says, this is a "conservative" estimate—but why purposely *underestimate* the direct effects of the program? Certainly we should be able to develop food subsidies which will be substantially more effective than this.

Indirect Effects

However, my main disagreement with Professor Shepherd is not on his analysis of the direct effects of the food subsidies. Suppose we should accept the admittedly conservative estimate that the direct effect of a 400-million dollar food subsidy would be to increase the food expenditures *of participants* by only 200 million dollars. How

would this affect the food expenditures of the higher income groups? Professor Shepherd concludes that they would be "little, if any, greater than before."

I sincerely believe this is wrong. I agree that the "attempts to estimate this increase in farm income (which) enlivened the 1938 issues of this JOURNAL" did not result in "accurate quantitative estimates." We still do not know enough about the demand of particular income groups to make such estimates. But to state that the indirect effects are likely to be zero, seems to me unwarranted, and likely to kill the practical chances of putting across the excellent program which Professor Shepherd advocates.

In all the discussions of consumption subsidies and two-price plans, it has been agreed that if the demand of non-participants (medium and high income groups) is less elastic than the demand of participants (low-income groups), the *short run* effect will be to increase the *cash expenditures* of both groups together. If the lower prices to participants are made possible by a subsidy, this means that in the short run the total expenditures (cash and stamps, for example), will be increased by more than the subsidy. I shall not discuss here the assumption that the demand for food by low-income groups is more elastic than the demand by medium-and high-income groups. In spite of some opinion to the contrary, I believe this is a correct assumption.

Granted that we do not know quantitatively *how much* this short run indirect effect would be, it is this indirect effect that is really important. In Professor Shepherd's contribution to the 1938 discussion[4] he estimated that total cash expenditures would increase by not more than 4 percent. I am not at all satisfied with Professor Shepherd's evidence on this point, but if we should accept it let us remember that 4 percent of a total food bill of 20 billion dollars is 800 million dollars. An addition of anything like this to farm income should not be passed off as unimportant.

But Professor Shepherd does not concern himself much with the short-run effects; he thinks that *in the long run* the indirect effects of the program upon expenditures of non-participants would be negligible. I see no basis for this dismal forecast. Professor Shepherd argues that the demand for food in the long run is likely to be more

[4] Geoffrey Shepherd, "Price Discrimination for Agricultural Products," this JOURNAL, November 1938, p. 792.

elastic (or less inelastic) than in the short run. I believe there is merit in this argument. But I see no basis at all for concluding that the long-run elasticity is unity. It seems to me much more likely that the long-run demand would be inelastic—although probably less inelastic than the short-run demand.

Moreover, it seems to me safe to assume that in the long run, as well as in the short run, the demand for food by low-income people will be more elastic (or less inelastic) than the demand by other groups. It is this *difference* in elasticity that is important. If in the long run the demand of low-income people is more elastic than the demand of other groups, total expenditures for food would be increased by any plan to enable low-income people to get a larger portion of the food supply at lower prices. This would be true without any subsidy.

Doubtless we should give more attention to the probable long run effects of food consumption programs. The immediate effect is to raise food prices. In the long run we can expect this to result in some increase in food supplies—but not enough to offset all the rise in food prices. It seems clear to me that a permanent food program such as Professor Shepherd advocates would in the long run lead to somewhat higher food prices and to a higher rate of food production and food consumption than could be maintained without such a program.

Conclusion

I am strongly in favor of the general type of program advocated by Professor Shepherd. I hope that American farmers, as well as consumers, will support it. But I doubt if farmers will support such a program if they think that only half the subsidy "gets back to them."

In my opinion Professor Shepherd's analysis is wrong on two points: (1) the farmer is quite likely to get directly substantially more than one-half the subsidy to participants; and (2) in the long run, as well as in the short run the farmer is likely to get very important indirect benefits through somewhat higher prices and through a greater volume of production and consumption.

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War Food Administration

ADJUSTMENTS IN WESTERN BEEF CATTLE PRODUCTION AND MARKETING DURING THE WAR AND POST-WAR PERIODS*

Some Trends and Changes During the Decades 1920 to 1940

AS AN introduction to the subject of recent and possible future changes in beef cattle production and marketing, it appears desirable to review some of the trends and changes that developed during the two decades prior to 1941. First some national trends as related to the production and marketing of beef cattle by the stock farms and ranches of the seventeen western states.

The national cycle of cattle numbers was due to reach its peak some time between 1935 and 1940. The upward trend of the cycle was arrested by the widespread drouth of 1934 and the subsequent dry years in the Great Plains. This extended the upswing of the cycle, and the war demand for meats and dairy products has now induced an expansion of all cattle numbers to an all-time high that is about ten percent above the previous high point. The livestock population statistics indicate, however, that the national population of cattle classed as beef animals are even now little, if any, higher than the high level of 1920, while the 1940 census of the human population of the United States stands approximately 25 percent above 1920.

Another national aspect of beef production and markets that appears worthy of note is the changes that have taken place in per capita consumption. There was a rather steady decline in per capita beef and veal consumption from approximately 67 pounds in 1920 to a low of 53 pounds in 1932. The per capita consumption of beef and veal leveled off at about 63 pounds from 1934 to 1940 and rose to around 75 pounds for 1943. This 1943 figure is an average for both civilian and military consumption of beef and veal.

Let us also make note of the fact that the imports and exports of beef and beef products were not important, nationally, during the decades 1920 to 1940. There was a small average annual net export from 1925 to 1935, and a small net import during 1938 and 1939.

Let us review next some of the changes in beef cattle production and markets that have occurred in the western states during the

* A paper presented at the Annual Meeting of the Western Farm Economic Association, Los Gatos, California, June 28, 1944.

period 1920 to 1940. First and most important is the fact that by 1940 the beef production deficit of California and Washington had reached a level that made the seven farthest western states, as a market area influenced by the West Coast markets, a deficit area to the extent of 15 to 20 percent of their 1940 consumption. By 1940 the transition zone between eastward and westward marketings of beef cattle had shifted east of the Continental Divide.

Another important change was the rapid shift of the cattle ranches of the Great Plains to a cow and calf basis during the thirties, and especially from 1935 to 1940. By 1940 the cattle production of the Great Plains was closely geared to the feeder and stocker markets of the corn belt. The drouth of the thirties in the Great Plains accelerated this change, but the primary cause was a shift in markets and prices. The midwestern and eastern slaughter markets for the two- and three-year-old range steer became more and more limited, and the feeder markets demanded animals that could be finished into young choice and prime beef.

As a result of the eastward shift of the transition zone between the eastern and western market movement of cattle and the changes that caused the plains ranches to adjust to a cow and calf basis, the mountain valley and foothill cattle ranches of Montana, Wyoming, Colorado, and New Mexico, had shifted by 1940 from the marketing of steers and mature cattle to a mixed marketing of young feeder animals and mature beef animals. Because of the limited extent of feed-lot finishing of cattle in the eleven western states, these mountain valley and foothill ranches marketed principally older animals to the *western* markets. The marketings of these ranches to the corn belt markets were principally young feeder animals, along with some older "two way" cattle.

This shift of the plains ranches and, to a considerable extent, of the mountain valley and foothill ranches of the Rocky Mountain States to a cow and calf basis, was accompanied by a significant change in breeding and type of animal used by the growers. This change was toward a thicker-bodied and earlier-maturing type of beef animal and consequently a better young feeder animal, but probably with some sacrifice in size of frame, rangeworthiness, and growth potential to maturity on range and roughage feeds. This change took place during a period of time when the national relationship between food-producing capacity and demand was such that highly-finished beef was not considered a luxury. We raise the

question here, without presuming to answer it now, how soon after the war this situation may again prevail.

Again as a background for our consideration of adjustments during the war period and possible post-war changes, let us take note of the fact that the average western beef cattle price that prevailed from 1920 to 1940 was not favorable from a net income standpoint considering the general picture of cost and price relationships for agricultural commodities. The western land banks, in developing a normal value appraisal of western cattle ranch properties, have been keenly aware of the limited debt service capability of a $6.00 per hundred weight average ranch price for beef cattle. Important factors in this price and income situation have been the narrowing of the slaughter markets for mature animals from the western ranches, the time and the management changes required in converting to a cow and calf basis, and the drouth years of the thirties. It is not difficult to understand why the western grower of beef cattle sees difficulties in a considerable war-time shift of the marketing of older animals, and then a probable return to the prewar cow and calf basis of operation.

The Changes Since 1940

The generally good crop years and accumulation of feed grains since 1940 and the price relationship between feed grains and meat animals, created a strong demand for young feeder animals. This recent trend reached a peak in 1942, and changed abruptly during 1943, when it became apparent that the heavy drain on feed grains by hogs, poultry, and dairy production, would soon cause a change in grain livestock price relationships.

The corn belt cattle feeder is shifting his operation to the feeding of older animals, a shorter feed period, less grain in proportion to pasture and roughage, and a lesser degree of finish in the animals he markets. He must do this to compete for feed grains. As a result the western grower has found a better market demand from the feeder for long-yearlings than for weaner calves. He has also found the slaughter markets again very receptive to well-fleshed, mature animals from the ranges. As a result of these market influences the western grower has retained young animals, without a corresponding liquidation of breeding cows and heifers. This was the primary cause for the considerable increase in western beef cattle numbers during 1943.

The western grower has been reluctant to reorganize his operations to a basis of marketing older animals, that is, reduce his breeding herd as he increases the number of yearling and two-year-old market animals, so as to stay within the limit of normal range and feed capacity. The tendency has been to retain the same or even a larger breeding herd while holding market animals to more maturity, and the recent favorable seasons have made this possible.

The recent seasons in the plains, where about sixty percent of western range cattle are produced, have been *very* favorable. Competent ecologists state that the plains country north of the Platte River and west of the hundredth meridian has rather generally recovered to climax dominance.

There is a distinct management contrast, however, between the plains grasslands, and the bunchgrass associations of the foothill and mountain lands of the Rocky Mountain and Intermountain regions. These foothill and mountain lands, with their greater diversity of range plant growth, can be overused for quite a period of time before the adverse effects of livestock production become apparent, and the restoration of the productivity of the resource is slow and uncertain. In contrast, the overuse of the grasslands of the plains has an almost immediate adverse effect on the market weights of the livestock, and the native grasses have unusual ability to regenerate following a period of drouth or overuse. In the event of an unfavorable season during 1944, the adverse effect of present high cattle numbers will be on the livestock production more than on the resource in the plains. But the reverse would be true for many of the foothill and mountain lands to the west of the plains.

Some Possible Post-War Trends

Present post-war outlook and plans are rather generally predicated on the premise that we shall be able to convert rather rapidly to post-war economy after 1945. I shall use those premises, and assume that following 1945 there will be a sustained period of high business activity and employment, and a considerable restoration of world commerce.

In that event we have the probability of a continuation of much the same influences that are now affecting production and markets for western beef cattle. That is, with a continued high demand for food, the value of feed grains for hog, poultry, and dairy production, would continue to restrict the use of feed grain for the making of

choice and prime beef in the feed lot. The western beef cattle grower would then operate on the basis that he has so far been reluctant to adopt—that of reducing his breeding herd to the point where he would normally have the range and feed capacity for the production of medium age and older animals.

It appears to be a reasonable possibility that under this situation we would not produce a supply of beef equal to consumer desires in the national setting of food supplies and food price relationships. As a result there would be the possibility of a rather insistent demand for some beef imports, and for beef prices that would permit a high national level of beef consumption by all consumer groups. There has likely been some important shifts in beef consumption by the civilian population during the war, and this may result in a higher potential demand for beef following the war, if there is the employment and the purchasing power.

Thus we arrive at the deduction that while the western beef cattle grower will likely have a more favorable price situation for some time following the war than the average from 1920 to 1940, he will probably receive prices materially below those prevailing during the war, and will find it difficult to make any considerable reduction in his operating costs, especially for hired labor.

The type of production and the markets may be quite different from those that were developing during the 1930's; that is, there may be more emphasis by western growers on the sale of older animals, and within the limits of feed resources and the suitability of seasons, on the production of mature animals for slaughter. A change of this nature will likely require some reversal in the recent trend of breeding and selection for type of beef animal. This will be true to the extent that the recent trend has been toward a type of beef animal that has early maturity and ability to make good young animal weights in the feed lot but with some sacrifice of ability to grow out to a good mature weight on range and roughage feeds.

In summarizing, let us re-emphasize the following concepts:

1. There is likely to be a considerable liquidation of beef cows and heifers, as the western operations adjust to a basis of marketing older animals. The time and extent of this liquidation will depend to quite a degree on whether the recent favorable seasons continue.

2. The beef cattle producers of the Rocky Mountain States will find more of their markets to the west coast states following the war, and to take advantage of this the growers will need to manage

ranges and pastures for the production of good grade slaughter animals.

3. The western breeders may find that the type of beef animal they have been developing in recent years is not too well adapted to the western growers' market opportunities during the next several years.

4. In the event of a recurrence of unfavorable climatic conditions the adverse effect of present high cattle numbers will be on the livestock production more than on the resource in the plains, but the reverse of this will be true for many of the foothill and upland ranges.

5. It appears probable that the national economic forces that are now causing production and marketing changes for the western cattle ranch will prevail for some time following the close of the war.

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THE IMPORTANCE OF STORAGE COSTS IN ACCUMULATING FOOD STOCKS[1]

OUR problem of accumulating food over a long time and on a large scale has two important parts, (1) the limitations of storage *space*, and (2) the limitations of storage *costs*. The first, dealing with the question of space, has been discussed elsewhere, and will be only summarized here.[2]

In the article on storage space, it was noted that the amount of space available in the United States, in excess of needs for storing products from one harvest to the next, is not so great as commonly assumed. The excess is so small for most products that it limits seriously the contribution by that means that we can make toward feeding starving millions in other countries at the end of the war. For instance, our cold storages in recent months have been bulging even to the point of "over-capacity," yet all the meat and lard in

[1] The figures on which this discussion is based involve, of necessity, averages of widely varying costs, as well as here and there some guesses. These limitations are unfortunate, but at present they seem unavoidable if one is to make any such overall comparison of storage from a cost standpoint. Others attempting the same sort of comparison might differ in detail of some of the figures arrived at, but it is believed the differences would not be so great as to invalidate the general conclusions.

[2] Harper, F. A., "How Much Food Can We Store in the United States?", *Farm Economics*, No. 140, p. 3577, April 1944.

these storages would feed the nation (in terms of calories) only about one week, and would feed the world only about one good meal.

The only large amounts of storage space we have are of types less thought of by most persons, such as open-air storage, space for storage on farms, and in homes. In general, these forms of storage have usefulness only for non-perishable products and even then are wasteful of the product.

This article deals mainly with the question of costs, which is another serious handicap to large and long-time accumulations of food. The importance of costs is greater than most of us realize. The amount we pay for storage costs in our daily food bill is hidden from ordinary consumers, because it is combined with pay for production and for the other marketing services. If we could see storage costs as a separate item, we would find that in normal times it is, perhaps, nearly one-fourth of the total marketing costs of the food we eat. It is of that much importance in spite of the fact that normally our food is produced as nearly as possible at the time when it is to be eaten, with only an insignificant amount stored beyond the next harvest. If we tried to store supplies a year or two in advance, storage costs would become overwhelmingly important among our marketing costs.

Under wartime conditions, the costs of storage tend to be ignored. During war, considerations of cost and economic feasibility tend to be pushed into the background, because at such times people in other countries are starving in large numbers, motives of "international good-will" tempt public officials to promise amounts of aid beyond our capacity to deliver, and people at home are fearful of coming food shortages. Under these conditions, those who raise questions about the economic wisdom of large-scale storage programs can easily be silenced by charges of selfishness and inhumanity—admittedly with more justification in wartime than normally. But even in wartime we should not be blind to the costs involved.

Except for special emergencies, sizeable and long-time storage is an expensive luxury. The idea of heavy accumulations has appeal only if we ignore the costs involved. Analysis of evidence on the question suggests that we should observe the actions of the squirrel; he has learned his economics the hard way, by trial and error rather than from textbooks. He is reported not to store food to any important degree beyond the requirements of the season, from

harvest to harvest. Yet we have come to think of him as a realist of first order and a senior member of the school of planning—if not its Dean Emeritus. Perhaps he is right. It appears that for us, too, storage on a seasonal basis only, with a little to spare, is usually a reasonable degree of foresight. If carried much beyond that point, it is exceedingly wasteful of both food and money.

Three Types of Cost Involved in Storage

The costs of storing a product are of three types. One type includes those costs commonly involved in the charges made by commercial storages; it includes the costs of maintenance of the space and the temperature of the storage, as well as protection against extraordinary damage to the product, such as fire loss, which may be attributed to negligence. A second type of cost is the interest on the investment in the product itself while it is in storage. The third type of cost is more vague, but none the less real. It includes characteristic losses of worth in the product during storage, such as shrinkage and slow deterioration of quality. The second and third types of cost are commonly borne by the owner of the product, even though it is placed in rented storage space.

The third type of cost is not included in the figures to be presented here because information is so lacking that it is difficult to make even guesses that are worth much. For many foods, loss of quality alone makes long-time storage prohibitive in spite of the other costs involved. Improvement in quality with storage is rare, occurring in only a few products like cheese and wine, or eggs for a Chinese market. In a general way we know that the third type of cost is highly important, and the rate tends to increase as the product is left in storage. For any one product it tends to increase in importance as the first type of cost decreases. In other words it is easy to economize on the costs of the first type by using forms of storage where there is an initial saving. This may all be lost and perhaps more too by losses of the product, or its quality. This third type of cost in storing products is so important that it is regrettable it has to be ignored in this summary. It needs much more study in the future, in terms of its *economic* aspects for many products.

The first two types of storage costs were found to be about equal in importance, as an average of the ten types of storage studied. The proportion varies, of course, among the types of storage and among products having different degrees of expensiveness and

perishability. For products easy to store, the interest cost becomes about twice as important as the space costs; for products difficult to store, the interest cost falls to about one-third of the costs of the space.

Comparative Costs for Different Forms of Storage

The most expensive type of storage (first and second types of cost, only) is livestock, as a means of storing meat, costing $7.80 a cubic foot per year (table 1). Costs of the other types of storage

TABLE 1. COMPARISON OF HOLDING COSTS FOR DIFFERENT TYPES OF STORAGE

Type of storage	Cost items			Years until the holding cost *** would equal the original worth, i.e., would double the investment in the product†	
	Space and its conditioning*	Interest on investment**	Total***	For products like meat, butter	For products like grains
	Annual cost per cubic foot			Years	Years
Livestock‡	$6.40	$1.40	$7.80	2.7	—
Cold storage space					
In homes, stores, etc.	2.80	0.37	3.17	4.9	0.2
Low temperature	0.65	0.90	1.55	9.9	0.9
Regular	0.41	0.60	1.01	11.1	1.3
General warehouse	0.20	0.15	0.35	12.5	2.5
Grain storage					
Commercial	0.10	0.04	0.14	13.3	4.2
Farm	0.05	0.04	0.09	13.7	6.5
Semi-perishables (root crops, etc.)					
Commercial	0.05	0.05	0.10	13.7	6.5
Farm	0.02½	0.05	0.07½	14.0	8.6
Open-air	0.00+	0.04	0.04	14.2	14.2

* Including insurance protection against extraordinary loss and spoilage for all types except open-air storage.

** Calculated on the basis of value of products usually stored in each type of storage.

*** Exclusive of "costs" of shrinkage, insect and rodent wastage, normal degrees of rot and spoilage, and normal deterioration of quality while in storage.

† Based on approximate current prices of $21 a cubic foot for the higher-priced products and 60 cents for the lower-priced products.

‡ Derived on the basis of cost records on non-growing animals, weighted by the proportions of different livestock in the United States.

range from this figure down to roughly 4 cents a cubic foot for open-air storage. Cold storages range in cost from about $1.00 to $3.00 a cubic foot, compared with 35 cents for general warehouses, 9 to 14 cents for grain storage, and 7½ to 10 cents for storages of root crops. These costs are based on an average for the products commonly stored in each type, and would be different if other products were stored there. The costs vary for other reasons too, not pertinent to this discussion.

Mounting Importance of Storage Costs

Storage is unique, among all types of marketing costs, in that it keeps growing with passing time. Transportation and the other costs of marketing, once performed, are usually finished, but not so with storage which keeps on piling up like a snowball rolling over soft snow. For this reason, an interesting way to think of the importance of storage costs is to see how many years would elapse before these costs, when added to the original value of the product, would double one's investment in it. For every product and every type of storage there comes a time when the worth of the product at the time it was put into storage is surpassed by the accumulated storage costs; if held beyond this point of time, it would be cheaper to produce it anew than to pay *only* the holding costs without any allowance for the worth of the product when it was originally put into storage. An additional consideration favoring new production is that at the end of the storage period the stored product would be of much poorer quality than the one newly produced.

In 2.7 years the storage costs of meat, stored in the form of livestock, would represent a doubling of the original investment. For instance, if one took $100 worth of meat in the form of mature livestock and stored it on the hoof, he would have at the end of two years and eight months approximately the same amount of meat, but of poorer quality, at an investment of $200. The costs of feeding and caring for the animal are great and in a sense these costs are "storage" costs, comparable to the costs of holding the meat in cold storage. Any farmer knows that the feed necessary for "live storage" of a fully grown animal would go a long way toward growing another animal. The expensiveness of storage of meat on the hoof explains why China—or any country, for that matter—cannot afford to store up food in the form of livestock for the sole purpose of

protection against famine. When food is short and people eat some of their stable livestock population, it is an act of desperation rather than the intentional termination of a plan of storage. When famines threaten, we eat first the animal and then the feed that it would have eaten.

Far better than storage on the hoof, from the standpoint of both ultimate cost and quality, is production just prior to the time the meat is to be consumed. From a cost standpoint, storage of meat on the hoof cannot possibly compete in efficiency with storage of the grain to be turned into meat when wanted, even though seven pounds of grain must be stored for every pound of edible meat to be produced from it. Probably little or no meat is stored on the hoof for that sole purpose, and to understand why we need only to consider the costs involved.

If there is desire for a peak supply of meat in excess of our capacity for producing it just prior to when it is needed, earlier production and slaughter, with storage of the meat at low temperature, is an alternative to "storing it on the hoof." But even this form of storing the meat is expensive; the investment would be doubled in 9.9 years. Though this is a lower rate of cost than storage on the hoof, the limitation of storage space, referred to in the earlier article means that little practical use of this method is possible. Both methods of storing meat—under refrigeration and on the hoof—involve loss of quality, though in different ways. And in addition to this, when we consider loss of quality, the seven units of grain needed to produce one unit of meat, and the storage costs of the meat itself, the resulting product becomes an extremely expensive luxury. With too little food in the world, increasing the conversion of cereals into meats can be thought of as a way of insuring that *more* people in the world, not fewer, will have to starve.

The time required for storage costs to double the original investment in the product differs between products because of differences in original expensiveness, and also it depends on the type of storage used. Grains in commercial or farm grain storages, for instance, would double the investment in from 4.2 to 6.5 years. The advantage of farm storage over commercial storage of grain would not be so great as these figures indicate, if we took into account the third type of storage cost, involving rodent and insect damage and other differences in abnormal wastage and loss of quality.

Even open-air storage involves a doubling of the investment in fourteen years. Storage in this manner is, of course, restricted to the most non-perishable products in extremely dry climates.

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CEILING OVER CEILING PRICING

WHILE it is generally conceded that price control in the field of perishable products has been successful, special problems have arisen and a special control technique has been used. This control method, ceiling over ceiling pricing, is subject to a particular type of abuse. The purpose of this paper is to state the reasons for the adoption of ceiling over ceiling pricing technique, to examine the particular abuses to which it is subject, to inquire into why it should not be extended to other products, and finally to examine broadly some of its other economic implications.

By the practice of ceiling over ceiling pricing is meant permitting a wholesaler or retailer to calculate his own ceiling upon that of his supplier as opposed to basing it upon his laid down cost.[1] Any handler who is permitted to use the ceiling over ceiling method is permitted to claim returns which may arise from ability to purchase at less than the fixed ceiling price appropriate to sales by his supplier. In other words, if a retailer or wholesaler can purchase at less than his supplier's legal ceiling he is not required to pass on equal reductions in his price, since he is permitted to compute his selling price on the basis of his supplier's ceiling. In both the American and Canadian price control programs ceiling over ceiling is permitted at certain distribution levels on a range of perishable food products.

Ceiling over ceiling pricing has been permitted on fresh fruits and vegetables and on certain other perishable products because of this perishability and as a result of the price behaviour characteristic of these products. Fluctuations in price are commonly extreme and erratic. With many regions contributing to the national supply a decided improvement or setback in crop outlook in any important area can lead to prices breaking sharply or showing great strength. In addition, large shipments may appear on a market unexpectedly and this will require downward price adjustments

[1] Rather than using this term Canadians speak of permitting "free trading under the ceiling." The American term is structural, the Canadian functional.

as a means of preventing loss by spoilage. Consequently, handling perishables, especially fresh fruits and vegetables, at any level of distribution is a highly speculative undertaking. Under such circumstances and in the face of the inflexible ceiling over cost markup provisions which apply on most other foods, produce dealers, particularly wholesalers, would be discouraged from carrying stocks as large as those they carried before the introduction of price control. By this is meant that with ceiling over cost pricing, margins which would provide adequate return for storage, handling, profits, etc. might be insufficient to allow for chances of losses on stocks due to a price break.

The alternatives to ceiling over ceiling prices for perishables are (a) no control; (b) employing ceiling over cost pricing but making the permitted margins large enough so that protection is given against contingent losses such as those described above, and (c) freedom from price and distributive controls but the limitation of cumulative gross margin of each seller by specific accounting periods.[2] The first of these is rejected by price control authorities and almost all economists on the ground that imperfect controls are superior to none. The second is rejected because it would tend to result in prices higher than necessary and might permit inordinate profits. The third alternative is rejected since it would leave an important segment of the food budget without specific price controls. In addition there are important administrative difficulties to the operation of such a plan.

The plans for permitting ceiling over ceiling prices differ as between Canada and the United States. In the United States this practice is permitted not only on several fresh fruits and vegetables, but also on certain other perishables including butter, cheese, shell eggs, poultry and certain fish.[3] However, it does not generally apply at the retail level. Retailers are required to recompute their ceiling prices on perishables every week and to base them on cost. The cost on which ceilings are based is the "net cost" of the largest single purchase of any particular item in the previous seven days. Thus a retailer can realize gains from this pricing device if he is able to buy below his computed "net cost" of the previous seven days, and dispose of the products at or near his computed ceiling.

[2] Cf. Tactics of Retail Price Control by John Perry Miller, *Quarterly Journal of Economics*, LVIII: 513, August 1943.

[3] See *Maximum Price Regulation* 422, 423 and 426 and amendments, OPA, Washington.

However a difference in the pricing of perishables as between small (Group I and II) and large (Group III and IV) stores under the community ceiling program should be noted. The small stores must observe only the community ceiling appropriate to their store grouping; on the other hand Group III and IV operators must observe as their actual ceiling the lower of the community ceiling or their computed ceiling.[4] At shippers' and wholesalers' levels ceiling over ceiling pricing is permitted without restriction. This is done to encourage these handlers to pursue normal policies with regard to carrying stocks of perishables. However, in markets where a distinct monopoly element is present, it may encourage buyers to restrict purchases so that ceiling prices and high margins can be maintained.

The Canadian controls permit a liberal use of ceiling over ceiling pricing but limit its employment to a broad group of fresh fruits and vegetables. Under this plan there are retailers, wholesalers, and shippers (or importers) ceilings. Each level in the trade is required to observe its own ceiling. However, if a wholesaler or retailer can purchase below the appropriate supplier's ceiling he can keep the gain involved, *provided* such gain is needed to recover previous losses. While there is no guarantee regarding recovery of losses the Wartime Prices and Trade Board has met all reasonable demands for permitting such recovery. To prevent abuses of this plan the Board has established local committees representative of the trade and of the Board to supervise pricing in all important markets. It is felt that the keen competition in large markets will generally prevent abuse and most often prevent recovery of losses arising from price reductions. However, in small markets where there are only two or three wholesalers and relatively few retailers close scrutiny will be required to prevent abuses.

In Canada about one-third of the food budget is under basic period controls. This requires operators at various distributive levels not to exceed historical ceilings. It will be clear, then, that on these products ceiling over ceiling prices prevail. Included in this group are such staples as bread, sugar, butter, flour, cereals and coffee. Among these, only on butter, has any particular problem arisen—and this is not presented as illustrative of general experience with this pricing device. During the summer months of 1943 the whole-

[4] The differences in the application of OPA rulings to urban and rural stores is not relevant here.

sale price of butter dropped to the floor or support level. If this reduction had been passed on the retail price would have dropped three cents. However, the actual reduction was one cent.

The employment of ceiling over ceiling pricing has the general effect of putting pressure on producer prices. This could be overcome and considerable flexibility assured by the use of a retail ceiling only. Under such an arrangement pressure under some circumstances would be asserted against producer and manufacturer's prices and under others against distributive margins.

The first conclusion arising from this examination is that ceiling over ceiling pricing gives a needed element of flexibility in the pricing of certain perishable products. The second conclusion is that, in the absence of restrictions on its operations, this pricing scheme is open to fairly serious abuse. However, it should be made clear that this method does not guarantee recovery of specific losses on a specific product soon after such losses are incurred. Competitive forces frequently prevent such recovery. Nevertheless the practice does place operators at all levels of distribution in a position to secure at least normal returns on their total volume of business.

DAVID L. MACFARLANE

United Nations Relief and Rehabilitation Administration

REVIEWS

The Economics of Control: Principles of Welfare Economics, Abba P. Lerner. New York: Macmillan, 1944. Pp. xxii, 391. $3.75.

This significant book is in the London School tradition, and follows Keynes in many respects; yet there is much in it that is original, and some very penetrating thinking. For some years Professor Lerner worked on the problem of the "development of the theory of price mechanism of a socialist society"; but as a result of studies in the London School of Economics he came to the conclusion that socialism would be less democratic than a controlled capitalist economy, and that it would be quite possible, theoretically at least, to control capitalism in such a way as to secure full employment and maximum social benefit. He therefore changed his plan somewhat, with Economics of Control as a result.

It is difficult to summarize a work which presents so much carefully reasoned doctrine. The analysis of utility, "marginal substitutability," and maximum satisfaction is mostly conventional; maximum of *probable* satisfaction is assumed to be attainable under conditions of perfect competition, if incomes can be equalized. The "Rule" to be used in production is: "If the value of the marginal (physical) product of any factor is greater than the price of the factor, increase output, if it is less, decrease output. If it is equal to the price of the factor, continue producing at the same rate." (for then the right output has been reached.) Monopoly is of course a problem, but it can be met by "counter-speculation." "The government through a special board estimates what would be the price of the good that would make demand equal to supply if there were no restriction of the kind we wish to abolish. It then guarantees this price to all sellers in the case of seller's restriction or to all buyers in case of a buyer's restriction"—thus shifting the monopolist's sloping average revenue curve to horizontal. The government is assumed to be wholly impartial—not controlled by monopoly—and anxious to promote the general good. In pursuit of this end the government will operate some industries side by side with private industries. Like many followers of Keynes, Professor Lerner is not concerned with the complicating realities of politics.

The analysis of rent, which, as in Boulding and other recent writers, is defined as any "unnecessary payment or surplus," is penetrating; and, on the assumption that all taxation falls on sur-

plus, and that the greatest surplus is in wages, Professor Lerner rates the personal income tax the least harmful, and not likely to discourage enterprise. Interest analysis follows Keynes to some extent, but with some difference. The government sets the rate of interest, at a point which will minimize price changes. The rate of interest is related to the *rate of change* in the price level, but not to the price level itself.

Perhaps the most significant part of this book is in the discussion of maintenance of full employment, and stabilization of business conditions. The government can realize these ends by "taxing, and spending, borrowing and lending, and buying and selling," in such a way as to counteract the ups and downs of private business. Debts are not bad, if owed to domestic creditors, and the government should make no effort to keep the budget balanced at all times. Indeed the government should purposely unbalance the budget when necessary to stabilize business conditions. Foreign trade is good, but foreign exchange rates should be subservient to the maintenance of full employment.

All this is an inadequate summary of Economics of Control, for the book is replete with able analyses. Whether the general method followed will prove fruitful, more fruitful, than some of the more conventional economics, will perhaps be known some day. The substitution of letters for words—M, msb, vmp, etc. etc., as in Keynes' writings, makes the reading unnecessarily laborious. If the words themselves are good they might well be used. Some of the proposals seem politically fantastic, at the present time—for instance the proposal that there be private and government plants competing with each other—yet perhaps we may see such things, elsewhere than in the TVA. At any rate, Professor Lerner might reply that political problems belong to another class of experts. Economists have their hands full without them.

JOHN ISE

University of Kansas

Management in Russian Industry and Agriculture, Gregory Bienstock, Solomon M. Schwarz, and Aaron Yugow, with an introduction by Jacob Marschak. Oxford University Press. 1944 Pp. 198. $3.50.

This product of a research project by authors in the New School

for Social Research has drawn the following criticisms of Theodore Bayer writing in *Soviet Russia Today*—August, 1944:

. . . "The three authors participating in the book are political opponents of the Soviet regime. Having left the country as far back as 1922, the twenty-odd years of Soviet development which is encompassed in the book are known to them only from afar. This great handicap—lack of first-hand experience—comes through most tellingly where the authors attempt to picture the new Soviet generation of managers. They just don't know them. . . .

. . . "The scheme of the book rules out any integrated picture of the functioning of Soviet economy, or the over-all accomplishments of Soviet industry or agriculture. . . ."

Whatever the limitations under which the authors labored, this book is a most timely contribution to a better understanding of the organization of production and economic activity in the U.S.S.R. Although somewhat difficult reading because of the many citations to Russian publications and quotations from Soviet leaders and the often too brief explanatory remarks, this short book gives a comprehensive picture of some key developments affecting management in industry and agriculture in the U.S.S.R. under the present government. Mr. Marschak in a 32 page introduction clearly outlines the contrasts between incentives and functions of management in the U. S. S. R. and a capitalistic economy.

In over-all terms the authors report great progress in the social direction of industrial and agricultural production, facts abundantly reinforced by the wartime successes of the Soviet armies. It is a report of an evolving system of controls and direction of industry and agriculture, which after breaking violently with the traditional past is gradually shifting back toward giving individual citizens and plant managers more incentives, increased individual rewards and additional responsibility in the production process.

In the early years of the revolution industrial plants or industries had somewhat of a dual management and control. Communist leaders were not technically competent to direct the plants and technically competent people were not sufficiently imbued with the government spirit and objectives to manage the plants as desired by the government. "Thus, a peculiar system was created: at the head of the factory with the rank of manager was an economic official, for the most part a Party man, often a former worker. He was assisted by a 'technical director,' often an engineer of consider-

able experience, but not trusted politically. . . . The situation was further complicated by the 'triangular' relations, of manager, Communist Party and trade union organs" (p. 104).

The training of young people both in the communist objectives and in industrial methods has gradually made it possible to place technically competent men in complete charge of plants. The trade union movement, centering on labor interests as distinct from the interests of the state, was broken in 1929 (p. 35) with the result that since that time most management problems have involved relationships between the plant manager and the higher economic organs of the government. Recent party congresses have stressed the need for concentrating more responsibility for the plant success or failure on the plant manager, but it appears that local Party organs assume the responsibility for assisting the manager to solve his production problems.

United States students will be interested in the disposal of the plant's profits. "A plant's total profit is divided quarterly between it and the higher organs of the industry, whose budgets form a part of the state budget. . . . In 1937 all industry transmitted more than 48 percent of its total profits to the state budget. Of all federal revenues, contributions from industrial profits constituted 6 percent in 1937 and 12 percent in 1940. . . . That part of plant profits which remains at the disposal of management is again divided between capital funds (to provide expansion of fixed or working capital) and the so-called 'manager's fund' (p. 79). Four percent of the planned profit and 50 percent of the profit 'above plan' are allocated to the manager's fund quarterly. Not less than half the fund is to be used for improving workers' and other employees' housing and the remainder for "crèches, kindergartens, clubs, canteens, etc., bonuses for outstanding work and for rationalization and technical propaganda." Managers and workers strive to keep costs below those allowed in the Plan not only to increase profits but to excel in competitions fostered by state organs.

Collective farms or Kolkhozes have a somewhat similar history. It was not until 1930 and the adoption of the first 5-year plan that the government took active measures to collectivize Soviet agriculture. Under active government sponsorship the cultivated land area collectivized increased from 4.9 percent in 1929 to 94.1 percent in 1935 and 99.9 percent in 1940 (p. 134). Both small and giant kolkhozes soon proved to be inefficient and by 1938 the average

kolkhoz comprised 78 households and 1,216 acres of land under collective cultivation (p. 137).

At first it was necessary to have urban party or government men elected as chairmen of the kolkhozes because of lack of sympathy with the government objectives and methods on the part of the more competent peasants. Already the situation has changed sufficiently so that most of the chairmen today have been elected from the membership of the kolkhozes. Many of the present managers have had special training for their jobs.

Instead of distributing tractors, other machines and supplies directly to kolkhozes, government machine-tractor stations were set up in 1930 to service the kolkhozes. Technical agricultural men have been attached to these stations and they have been a controlling influence in the organization of production by the kolkhozes and their adoption of improved agricultural practices. These stations service the kolkhozes in their areas at fixed fees.

Chapter 16 entitled *Private vs. Co-operative Interests*, which presents the dilemma of where the kolkhoz member can direct his savings without a fundamental change in the relation of the kolkhoz to the government, is likely to be challenged vigorously by Soviet officials.

All in all in spite of any short-comings it may have, we have here a substantial beginning toward a record in English of the vigorous economic development of the U.S.S.R. in the pre-war period.

WALTER W. WILCOX

University of Wisconsin

Production, Jobs and Taxes, Harold M. Groves. New York: McGraw-Hill Company, 1944. Pp. 116, $1.25.

This penetrating study, first in a series of research publications sponsored by the Committee for Economic Development, focuses on postwar revision of the Federal tax system as a means of achieving higher production and more jobs. The general emphasis throughout the book is on minimizing tax-deterrents to risk-taking and increasing equity in distribution of tax burdens. Professor Groves discusses twelve major issues in corporation and individual taxation and makes definite proposals with respect to each, but the heart of the book is concerned with what the Tax Institute recently called the problem of "untaxing business."

Groves argues (1) that the usual arguments in favor of taxing business—in addition to taxing the individuals who own it—fall short of proving their point and (2) "that the real answer to the question must be sought by analyzing the effects and incidence of business taxes" (p. 19). His analysis, he believes, leads to the conclusion that "the duplication in the corporate and personal income taxes should be eliminated by integrating the two levies" (p. 19). He examines and discards all the major prevailing theories of business taxation, identifying business and corporate taxation throughout. Thus, he discards the benefit theory because the distribution of benefits cannot be determined, because the corporation is an inanimate object which cannot bear tax burdens anyway and because he is uncertain that benefits received are superior to ability to pay even if benefits could be measured. He rejects the special privilege variant of the benefit theory, based on the grant of the corporate charter, on the grounds that, under general incorporation law, this privilege is available for the asking. He contends there is no convincing evidence that corporate taxation has been successful in checking concentration of control, another reason to justify it. With this reasoning, the reviewer can find no fault.

Groves finds the incidence of business taxes obscure and their effects for new investment unfortunate. With respect to the corporate income tax, for example, he points out that, even if the incidence of the tax is on the stockholders, the tax is inequitable. Under present law, the stockholders are taxed twice (once on earnings, once on dividends received) and the allocation of an impersonal tax among stockholders cannot take account of their varying economic circumstances. Perhaps even more important for the major thesis of the book are the possible repressive effects on new investment. This follows because: (1) the use of a corporate tax along with the full personal tax on dividends puts a special penalty on risk-taking (2) corporate managements are often motivated more by amount of earnings they produce for their companies, much less by how stockholders receive, or enjoy net of personal tax. Thus, Groves finds his reasoning leading to tax integration.

In proposing plans for tax integration, Groves has to grapple with the difficult problem of undistributed profits. His proposal (for most corporations) is an adaptation of British experience and would confine the corporation tax to a withholding levy and an advance payment on income retained by the corporation for reinvestment.

On tax withheld for earnings distributed, the individual would take a credit for his personal tax. For tax on undistributed earnings, the individual would take up the credit if and when the earnings were distributed or a capital gain were to occur through realization on transfer of the stock. The rate of the levy would be the lowest bracket rate (normal plus surtax) of the personal income tax—now 23%. Groves recognizes that this does not equate perfectly the burden upon distributed and that upon undistributed income, but submits the proposal as the best compromise he has been able to work out.

Also to be repealed under the Groves plan would be the war-time excess profits tax and the present capital-stock-excess-profits-tax-combination, the latter at once, the former upon the close of hostilities, but taking effect a year subsequently. The argument for retention of excess profits taxation as a device to capture monopoly profits is examined but the conclusion is that "there is no clear way to isolate monopoly profits" (p. 51). The immediate repeal of the tax upon the close of hostilities is designed to give business men assurance that the tax will be withdrawn; the time interval of a year is to allow a period during which wartime controls would not have to be abandoned immediately.

In concentrating upon the heart of the book, mention has not been made of Groves' other valuable proposals. He favors heavier reliance on personal income tax in the future, with some reduction in the upper brackets but with the retention of low exemptions (one of his best chapters); heavier death taxes; elimination of tax-exempt securities; no segregation or other limitation on the deductibility of capital losses; increasing use of averaging income: less reliance on excise taxation; use of experience rating in connection with payroll taxes for unemployment insurance; increased freedom in depreciation and obsolescence accounting for business, and more generous allowance for business losses.

There are, of course, points at which the book is inadequate. The most important, in the reviewer's opinion, is the relatively limited role which Groves finds for the tax system in our economy. While he agrees that depression is not the time to *raise* taxes (p. 101), there is nowhere an indication that, starting from the high levels of taxation we now have, taxation could be used as a powerful fiscal weapon against depressions by drastic tax reductions, if and when the necessity arises. In fact, Groves says (p. 14) that "an economy

run by its tax system is indeed the tail wagging the dog!" In other words, the role assigned to taxation is important, but the ends of taxation are visualized as being chiefly to increase incentives and to improve equity in distribution of the tax burden.

These are, nevertheless, extremely important ends and—again returning to the author's emphasis on "untaxing" business—he is abundantly right when he says that "if business taxes do reduce investment, employment and national income, and other taxes can be found which would not do this, then the price we pay for business taxes is too high. Their elimination would mean higher personal incomes, a larger tax base, and greater general welfare" (p. 25).

EDWARD D. ALLEN

Iowa State College

The Field Seed Industry in the United States, Victor Frank Beck. Madison: University of Wisconsin Press. 1944. Pp. xi, 230. $3.00.

Agricultural economists have made exhaustive studies of the production, marketing, prices, and processing of the food and feed crops of the United States. Seed, the fundamental element which carries the germ of plant life from one season to the next, has been the subject of relatively few economic studies. Prior to the publication of this book, economists had not devoted much attention to seeds, though the need was evident. Few, if any, farm products have year-to-year and seasonal price fluctuations as large as those of the seed of legumes and grasses.

Mr. Beck is economist for the Field Seed Institute of North America. The studies on which this book is based were begun while he held a fellowship provided by the Institute at the University of Wisconsin. The present volume is a result of five years devoted to compiling, analyzing, and interpreting statistics of production, distribution, and prices of leguminous and grass seeds in the United States. Mr. Beck's contribution to industry and to farmers has been that of bringing together in one source the reliable statistics of the seed industry and his capable and effective analysis and interpretation of those data.

The opening chapter presents a brief, but interesting historical review of the development of the seed industry. Geographical distribution and trends of acreage, production, and utilization of seed are developed in chapter two. This is followed by an analysis of the seasonal and geographic patterns of seed sales.

Of special interest to the economist is the latter part of the book which deals with price trends, prices of seed relative to other prices, and factors affecting the annual and seasonal fluctuations in prices. Some price series, such as those of clover and timothy, cover a period of more than 100 years. For the more important seeds the series of monthly prices extend back to 1909.

The presentation is comprehensive, yet concise. Conclusions and factual statements are supported with reliable data. Sources of statistics and methods of analysis are indicated adequately throughout the book. The information presented by the numerous charts and graphs will be appreciated by those who wish to use the book as a handy reference on price movements. Consideration of factors of quality, influence of quality on prices, and the activities of the various state and national organizations seeking to improve the quality of the seed supply, might have been a valuable addition to the book.

This book is a commendable contribution of an economist in a new field. It is to be hoped that it will stimulate further studies in the field seed industry, as well as similar studies in other phases of the seed industry of the United States.

GEORGE MONTGOMERY

Kansas State College

Public Spending and Postwar Economic Policy, Sherwood M. Fine. New York: Columbia University Press. 1944. Pp. viii+177. $2.50.

The author of this book formerly was a member of the staff of the Division of Monetary Research of the United States Treasury Department and more recently has been Principal Economic Analyst of the Foreign Economic Administration. The study reported in this volume was "primarily concerned with establishing the proper scope and place of fiscal policy in postwar economic policy."

The public spending theories of Keynes and of Hansen are analyzed at some length. "Pump priming" expenditures are criticized since they do not necessarily get at the causes of the downturn in business activity. It is pointed out that it is more important to determine the causes of the failure of the pump to work and then to remove the causes rather than merely to prime the pump.

The secular-stagnation doctrine of Hansen is considered from three standpoints: "(1) the role of technological progress, (2) the

significance of the altered rate of population growth, and (3) the import of the closing of the frontier and foreign outlets for capital investment upon the level of business activity and the prospects for our economic institutions." It is pointed out that technological progress still is great and gives promise of continuing to be highly important. The author believes that impediments checking the investment of savings in new undertakings can be removed and that this need not be a cause of recessions in business activity. The decline in the rate of population growth need not be a deterrent to progress and to a satisfactory level of business activity if the relatively stationary population increases its standards of living and the opportunity in this direction is unlimited since the wants of men are infinite in number and variety. To some extent the geographical frontier has disappeared but the frontier need not be considered solely in geographical terms. Even taken geographically there are many frontiers to be pushed back after a region is first penetrated. The author rejects Hansen's explanation of the stagnation of the thirties because it directs attention to the more outstanding developments of recent years and "attributes to them a causal role which is at best spurious."

Public spending from 1933 to 1940 is reviewed and criticized. It diverted attention from specific institutional maladjustments and was primarily a domestic type of recovery program. Its timing was unsatisfactory since many projects could not be undertaken quickly. Furthermore it was not coordinated with a consistent tax program. The author believes that expansionist spending can be an essential factor in a recovery program if properly executed. It must be coordinated with a consistent tax program, put into effect previously prepared plans and make real additions to the national wealth. Such spending is not a way of eliminating unemployed resources but is an aid in bringing about fuller employment of resources.

In the concluding chapter the postwar problem is considered from the standpoint of the immediate short-run transition period and the long-run problem of providing full employment of resources. The author believes that during the immediate period government spending will play and should play an important part. In the long-run period government spending also may play an important role but it must be coordinated with fiscal and monetary policies, pricing policies and international economic policies. This chapter is

brief and since it states the conclusions of the author one cannot help but wish that he had developed his suggestions more fully.

W. E. GRIMES

Kansas State College

Winter Wheat in the Golden Belt of Kansas, James C. Malin. Lawrence, Kansas: University of Kansas Press. 1944. Pp. xii, 254, 28 p. notes, 25 ils. $3.00.

This is not merely a story of the emergence of hard winter wheat from small beginnings to one of dominance but rather the recounting of the efforts of a pioneer community to adapt itself to a new environment. The viewpoint of the book is given by the sub-title, "A study in adaptation to subhumid geographical environment." The thought is reiterated and emphasized throughout the book. The study, as stated, "is a segment of a comprehensive research program that has been carried on for more than a decade" (p. v). The program as a whole, parts of which have been previously published, has attempted to trace the development of the whole community life, for which a number of samples representing major agricultural areas were selected.

"The principal focus of this study is the upper Kansas river, the area where the several streams converge—the streams flowing out of the Great Plains—which form the main river called the Kansas" (p. 6). In selecting this sample it is stressed that it is transitional between the "relatively humid prairie of eastern Kansas and the definitely subhumid edge of the Great Plains" (p. 6).

The book is divided in three parts: Part I, Beginnings, 1855–1872; Part II, The Soft Winter Wheat Boom, 1872–1882; and Part III, The Emergence of the Hard Winter Wheat Regime, 1883–1902. The chief sources of materials were newspapers of the area and surrounding territory. Considerable statistical material is presented from reports of the Kansas State Board of Agriculture. However, the reader is warned against too much dependence on the available data. For example, "The wheat picture cannot be visualized clearly even with the aid of available statistical tables of acreages and yields, because the statistical methods of the time were inadequate and the data are unreliable. This applies to the figures of both the state and federal governments" (p. 45). During the early years, "It was not often that the newspapers gave realistic figures for crop yields. The spirit of boom optimism did not permit such candor and

anyone making a low estimate or a pessimistic prediction was almost certain to be branded a croaker. In good years specific figures were printed frequently claiming yields that sometimes seem fantastic. In bad years little was said usually of crops unless attention was called to some exceptional field" (p. 47). It appears the author has used excellent judgment in the interpretation of such data, checking one source against another to arrive at the most probable results.

Attention is focused on the more important alternative crops, wheat and corn with emphasis on wheat. There was not only spring wheat and winter wheat but the many varieties of each, most of which could claim a number of adherents. The search for adapted varieties is of particular interest when one considers the great advances of the production of the area that have been due, through the years, to the wider use of adapted varieties. The danger of forecasts on the possibilities of such improvement are illustrated by a statement quoted from T. C. Henry: "I do not advise much further experimentation in new varieties. We have a sufficient number already introduced that are adapted to our soil and climate . . ." (p. 75).

The struggle for finding crops and varieties better adapted to subhumid environment is further complicated by the search for better methods of tillage and more suitable implements. Considerable attention is given to this phase of developing and using implements which have been so closely associated with the Great Plains agriculture. This applies particularly to the lister and header.

The problem of alternative crops and varieties of the area is broadened into a discussion of crop vs. livestock or of various combinations, including the scale and type of operations. One point of interest is the author's conclusion that in the seventies " . . . there was clearly no popular demand for congress to change the laws relative to size of the farm unit under which government land was being distributed. Furthermore, it is evident that there was no general agreement in the region itself that a change in size was necessary to adapt more accurately to the requirements of subhumid environment. The conviction that the land laws were wrong in this respect did not become general until a later period and any such conclusion changed with technological innovations, particularly mechanical power farming" (p. 130).

Although the book is necessarily rather detailed it is interest-

ingly written. This interest is increased by the account of "T. C. Henry, real estate dealer and 'Wheat King.'" This account is an illustration of how one or a few men often have a wide influence on the development of a pioneer community. Further interest is added by selecting here and there samples of the humor of the period, especially exaggeration. For example, concerning the corn crop of 1899, it was said "The corn yielded fabulous stories as well as grain. Late in August farmers were warned about losing livestock in the corn fields because three calves had been lost and 'when they are discovered they will doubtless be full grown and unrecognizable'" (p. 152).

This book will be found of particular interest by those who wish to trace the steps of development of enterprises within an area. It illustrates how the principle of comparative advantage works itself out in agriculture over a period of time.

J. A. HODGES

Kansas State College

Curbing Inflation through Taxation (symposium). New York: Tax Institute, Inc., 1944. Pp. 261. $2.50.

The symposium embracing these eighteen addresses was conducted by the Tax Institute in February, 1944, in New York. Five major topics indicate the scope of the volume: earmarks of inflation; inflationary potentialities of the public debt; fiscal devices for curbing inflation; experience of other countries (U.S.S.R., Italy, Canada, England) in curbing inflation through fiscal devices; and possibilities of postwar inflation and suggested tax action. The economists, business men and others on the roster of speakers naturally exhibit some wide differences in viewpoints, knowledge, and opinions; but the juxtaposition of the economic-technical and the business-journalistic may be not only vexatious at times but perhaps also of peculiar educational value for both participants and readers.

Milton Gilbert reviews briefly the broad pattern of consumer spending during the war and points out that our unwillingness to tax more heavily means continuing reliance on direct controls to stave off inflation.

Seth D. Sims, assistant to Secretary Wickard, discusses the farm land boom, introducing an interesting case history of transfers of an Iowa farm, and recommends a heavy tax on speculative gains.

Inflation in urban land is reviewed by Homer Hoyt, who presents good reasons for believing there will be no great rise in prices of vacant urban land. Real need exists, however, for immediate control of subdivision on the suburban fringe, to prevent postwar speculative blighting of "one of our greatest community assets—the belt of vacant land encircling our great cities."

Analyzing problems of the public debt, Alvin Hansen concludes that an increase of public borrowing in times of widespread unemployment "offers no dangerous inflationary potentialities"; that the maintenance of a public debt "in and of itself has neither inflationary nor deflationary potentialities"; that size of debt is significant because of possible effects of debt on income distribution, investment, spending, and saving; and, by implication, that avoidance or offsetting of unwanted tendencies in these latter respects is the task of wise statesmen and managers of monetary and fiscal affairs. Government credit is so strong that we need not fear any inflationary potentialities springing from a breakdown of the federal credit. But we must not weaken that credit by imposing serious limitations on taxing and borrowing powers of the federal government.

James F. Hughes of Smith, Barney & Company dissents, believing that continued expansion of public debt "will result in some kind of catastrophe" because "the public debt is now in politics" and political pressure "will seriously interfere with the unemotional economic processes required for skillful, prudent management of fiscal policy."

The major, central part of the volume is devoted to consideration of particular fiscal devices for curbing inflation and to reviews of experience in four other countries. A federal retail sales tax is recommended by Godfrey N. Nelson of the *New York Times* and is not recommended by Marius Farioletti of Treasury, on the basis of familiar arguments. An able discussion of the lamented spendings tax is contributed by Alfred G. Buehler, while Roy Blough argues convincingly for the (currently-collected) individual income tax as a primary anti-inflation instrument. Carl Shoup has an excellent little paper on forced loans; and Seymour Harris has another on social security taxes, concluding of course that the payroll taxes ought to be increased. Good, short discussions of inflation control experiences in Canada and England are contributed by A. Kenneth Eaton and Mary E. Murphy.

In this reviewer's opinion, the most needed single piece in the book is that by Marriner S. Eccles on postwar fiscal policy. Eccles insists that we must consider postwar taxation as a means for controlling *deflation* as well as an instrument to fight inflation. The emphasis is on flexibility and adaptability of our postwar tax structure to meet the changing requirements of fiscal policy. "Tax policy must be recognized as part of a flexible fiscal system and must be used wisely to supplement or curtail the flow of consumer and business spending as conditions require." Rapid conversion to peacetime production is the most effective way to cope with inflation immediately following hostilities, but we must retain rationing and price control and licensing of exports as well as wartime taxes during the transition period. After reconversion we must continue to use taxes as major instruments of national economic policy. This view does not contemplate a panacea of incentive taxation, which to nearly every man means reduction of his own taxes. It does contemplate the shaping and timing of taxes and public expenditures so that government can be "a balance wheel and a stabilizing influence in helping to maintain a high level of production and employment."

Little that Eccles says is new to economists, but basic truths are effectively focussed to point a direction for policy in the period just ahead. While there remain Congressmen who will tell you unabashedly that taxation must be "for revenue only," perhaps strong statements of simple necessities are even more important than elaborate technical economic analyses. (The Eccles address is available also in the *Federal Reserve Bulletin*, March 1944.)

This symposium, taken as a whole, is a decidedly worth-while contribution to the yet swelling flood of discussion of inflation control and future fiscal policies. The book has a selected bibliography and an index.

FRED A. CLARENBACH

University of Connecticut

Pan American Economics, P. R. Olson and C. A. Hickman. New York: J. Wiley & Sons, 1944. Pp. 479. $3.50.

This volume will serve as a very useful textbook on Latin-American economics. Its main emphasis is on trade, investment, tariffs and exchange policies. The authors have combed well the English

literature dealing with the areas covered in this volume. (Unfortunately, they have not used Spanish or Portuguese sources.) Their accumulation of facts is welcome indeed; and one who wishes, in the shortest possible time, to be informed concerning the composition of Pan-American trade, the numerous trade restrictions of Latin-America and of the United States vis-à-vis Latin America, the prospects of new industries, concentration of population, loans by the Export-Import Bank, clearing agreements, inter-American cooperation, etc., would do well to read this volume. It will indeed be a useful reference book, almost a Latin-American economic almanac. Undoubtedly we may expect much good work from these writers in a field where talent is scarce and unexplored areas rich.

In their next volume, the reviewer expresses the hope that the authors will spend more time on analysis and less on digging up facts. In his book on a Liberal Education, Mr. Van Doren says the educated man must, among other things, learn to give facts their proper place. We must not catalogue and catalogue; we must accumulate them only in so far as they might yield the generalizations we seek. Professors Olson and Hickman, for example, list the possible sources of investment in Latin America. Yet the reader is not left with any concrete idea as to how much foreign capital Latin America might profitably use. The past and potential contribution of foreign capital towards a higher standard of living, and a higher productivity of labor is not treated adequately. They discuss the defaults and indicate some reasons for them. They blame the collapse of trade and, to some extent, unproductiveness of the loans. Is it not too bad that, in the light of the mistakes of the past, they did not suggest concrete proposals for a borrowing program which might not break down? What safeguards might be introduced? A priority system under government auspices on the basis of productivity and potential yields of exchange might, for example, be set up.

I am not satisfied with the general analysis of the international position of Latin-American countries. Nowhere are the strands pulled together. What is the relation of trade balances, reserves, capital movements, tariffs, exchange control and domestic investment? Much information is presented on each of these subjects. But no attempt is made to appraise exchange control, tariffs, capital movements, exchange depreciation, etc., as means to the equilibration of the balance of payments. No attempt is made to

weigh the gains in terms of stabilization, improved terms of trade and domestic investment resulting from protectionist measures against the losses associated with the diminution of trade. Or take exchange control. Various techniques are discussed. We are not informed, however, as to the effects of exchange control on exports, imports, the allocation of economic factors, and so on.

SEYMOUR E. HARRIS

Harvard University

Studies in Income and Wealth, Vol. VI, Conference on Research in Income and Wealth. New York: National Bureau of Economic Research. 1943. Pp. 304. $3.00.

This volume, the sixth of a series of studies by the Conference on Research in Income and Wealth contains seven separate papers. They are Income Measurements as Affected by Government Operations by John Lindeman, Measuring the Economic Impact of Armament Expenditures by R. W. Goldsmith, The Concept of Income Parity for Agriculture by E. W. Grove, Significance of International Transactions in National Income by Rollin F. Bennett, Forecasting National Income and Related Measures by F. L. Thompsen and P. H. Bollinger, A Statistical Study of Income Differences among Communities by Herbert E. Klarman, and Adequacy of Estimates Available for Computing Net Capital Formation by Wendell D. Howe.

Since agricultural economists will likely be most interested in the articles on The Concept of Income Parity for Agriculture and Forecasting National Income and Related Measures, this review is confined to them.

Mr. Grove's paper on parity income and the accompanying discussions are well worth serious study. After tracing the origin and development of the concept, Mr. Grove turns his attention to the problems of income measurement and to the validity of income as a measure of welfare. His analysis leads him to the conclusion "that the economic foundations of income parity as now measured are shaky in the extreme."

This unfavorable conclusion seems to rest not so much on the use of a historical base period and the inaccuracies of measurement as it does on the inability of dollar income measures, however precise, to reflect accurately total welfare. Three major objections are

made to the use of income estimates as a quantitative measure of the relative welfare of farm and non-farm groups: (1) the comparison "involves the unverifiable assumption that the two groups are made up of essentially the same kind of people with similar wants and capacities for satisfaction"; (2) income parity is concernd solely with economic welfare, yet economic welfare is not an adequate measure of total welfare; and (3) the estimates of income that are available or can be constructed are not even suitable measures of differences or changes in economic welfare itself, since they are inherently incapable of reflecting "the sum of the consumers' surpluses derived by the individuals involved from each economic good and service at their disposal."

Mr. Grove has, I think, given the major reasons why equality of money income does not insure equality of total welfare or even of economic welfare. But I question if this lack of equality itself invalidates seriously the parity income concept. At times even Mr. Grove seems to have some doubts about the matter. He recognizes that the foregoing objections lose much of their substance when parity income is "appraised as a measure of changes from the base period for each group than as direct year by year contrast between the two groups." The present parity income formula is, of course, concerned with relative changes in farm and non-farm incomes rather than with their absolute differences.

The essential difficulties of the present parity income formula as a measure of relative changes in farm and non-farm incomes are not ignored by Mr. Grove, but he does not, in my opinion, emphasize them sufficiently. Comparison between the average income per person on farms and the average income per person not on farms cannot provide an adequate guide for sound agricultural policy even though the income estimates provided suitable measure of average economic welfare or even of average total welfare. The dispersion of incomes among farmers and among non-farmers is too great for the averages to have any significance.

Another basic difficulty with the present parity income formula is the use of a historical base period. Certainly few serious students would defend the perpetuation of the relationship between farm and non-farm incomes that existed some thirty years ago. But even more important is the question whether the income relationship that prevailed during any past period is a desirable guide as to what ought to prevail currently or in the future.

Until one reads Mr. Grove's "Reply" he is apt to be somewhat puzzled by the favorable comments on parity price as contrasted with the generally unfavorable appraisal of parity income. The reason is explained by Mr. Grove as follows: "Alarmed at the unfavorable light shed on income parity, they [the 'information specialists' in the Bureau of Agricultural Economics] insisted on frequent and conspicuous reference to the dominant role of price parity and the relative unimportance of income parity in current agricultural programs. In the interest of prompt approval of the paper for presentation to the Conference, it seemed wise to make these insertions."

Turning now to the paper on Forecasting National Income and Related Measures by F. L. Thompsen and P. H. Bollinger one cannot, I think, fail to be impressed by the great care exercised by the Bureau of Agricultural Economics in making its forecasts, by the serious difficulties inherent in this type of work, and by the high degree of reliability of the forecasts thus far made.

The authors explain in considerable detail the particular methods employed by the Bureau in forecasting nonagricultural income, agriculture's contributions to the nation's income, industrial production, and the general level of wholesale and retail prices. While further elaboration on some points would have been helpful, the treatment is, on the whole, excellent.

Messrs. Thompsen and Bollinger deplore the fact that at the present time "results depend so largely upon personal judgment." They feel that a higher degree of objectivity is needed and that this could be obtained if more and better data were available. Mr. Thompsen in particular seems to believe that business forecasting can be made a science. His view, however, is not shared by either Mr. Garfield or Mr. Wardwell in their discussions of the paper.

The central difficulty of employing formal statistical methods in business forecasting lies, I think, chiefly in the very complex relationships involved and in the high intercorrelations between variables. In the Bureau's forecast of nonagricultural income, for example, the most crucial factor is the forecast of industrial production. Future industrial production, however, is itself influenced to a considerable extent by expectations of businessmen concerning the future level of national income of which nonagriculturalin come constitutes the major part. Also, agricultural income is influenced by prices of farm products as well as by the volume of farm market-

ings, and farm prices especially are affected by the level of non-agricultural income.

H. R. WELLMAN

University of California

Taxation to Prevent Inflation, Carl Shoup, Milton Friedman, Ruth P. Mack. New York: Columbia University Press, 1943. Pp. xii, 236. $2.75.

This book presents the findings of a research project carried out by the authors during the fall and winter of 1941–1942 under the auspices of a joint advisory committee of the Carnegie Corporation and the Institute of Public Administration. It contains four essays with supporting tables and charts, which together make a notable contribution to fiscal theory literature.

In the first essay the authors describe in considerable detail the technique which they employed in the fall of 1941 for estimating the amount of taxation necessary to avert inflation during the next six to nine months. An attempt was made "to ascertain the relevant facts for October 1941, and then to construct the situation for June 1942, as it would be if prices were substantially unchanged from the October 1941, level." Following this analysis of changes in civilian and producer spending under four different sets of assumptions concerning the increase in total output and defense spending and the extent to which available resources would be diverted to defense, the authors attempt to compute (1) the amount of taxation necessary to keep consumer disposal income unchanged, and (2) the extra amount of taxation needed to neutralize the increased purchases which civilians would wish to make out of an unchanged disposable income under the assumed increases in output and defense spending.

The estimates finally arrived at as the result of this analysis have, of course, long been obsolete, and consequently will be of interest only insofar as they indicate the possibilities and limitations of the techniques employed. But the discussion of these techniques and the logic underlying them will be most helpful to those undertaking similar studies in the future.

In the second essay, Professor Shoup discusses some of the tax measures which might be adopted as a part of an anti-inflationary fiscal program. Attention is given mainly to the individual income tax and various sales taxes, although there is a brief discussion of

other possibilities such as the tax on increases in personal incomes and the spendings tax. This essay also contains an excellent discussion of the relative advantages and disadvantages of a sales tax over an income tax.

The last two essays are primarily of interest to the specialist in fiscal and income theory. In the first, Mr. Friedman makes a critical appraisal of the methods used in previous attempts to predict the onset of inflation. Among the techniques analyzed are those of James W. Angell, of A. G. Hart and the Iowa Group, and of Richart Gilbert and Victor Perlo of the Office of Price Administration. There is also a discussion of the "inflationary gap" concept as a tool of analysis in forecasting the genesis of inflation. In the final essay, Mrs. Mack outlines a technique of analysis and forecast of national income. Tables containing estimates are presented to assist the reader in following the successive steps in her method of arriving at income forecasts.

E. GORDON KEITH

Washington, D. C.

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HONOR ROLL

Agricultural Economists in the Armed Services of the United States*

Anderson, Roice H.	University of Wyoming	Navy
Crowe, Grady B.	Bur. Agr. Economics, U.S.D.A.	Army
Hendricks, Lewis E.	Bur. Agr. Economics, U.S.D.A.	Navy
Maxton, J. L.	Virginia Polytechnic Institute	Navy
Pine, Wilfred H.	Kansas State College	Navy
Schadegg, Francis J.	Bur. Agr. Economics, U.S.D.A.	Navy
Stewart, Hugh L.	Bur. Agr. Economics, U.S.D.A.	Navy
Talbot, Edward	University of Wyoming	Navy

* Only Agricultural Economists reported to the Editor as having joined the Armed Services since the publication of the August issue of the JOURNAL are included in the list.

NEWS ITEMS

The State Department of Markets at the University of Maryland has been combined with the Department of Agricultural Economics into a new Department of Agricultural Economics and Marketing. Under the new setup, extension, research, and instruction work will be pursued in the fields of Cooperative Marketing and Purchasing, Farm Management and Land Economics, General Marketing and Finance, and Taxation, while extension, research and regulatory work will continue in the Inspection, Standardization and Service Division.

Dr. S. H. DeVault, who has for 22 years headed the Department of Agricultural Economics and Farm Management in the University, has been chosen to head up the newly expanded Department.

An Exploratory Committee on Research in Agricultural Finance has been set up under the Financial Research Program of the National Bureau of Economic Research for the purpose of formulating a broad program of research in agricultural finance which the National Bureau proposes to inaugurate. Serving on this committee are Dr. F. F. Hill, Cornell University, Chairman, Dr. William G. Murray, Iowa State College, Dr. R. A. Young, National Bureau of Economic Research, and Dr. E. L. Butz, Purdue University, Secretary. Dr. Butz is on a half-time leave of absence from Purdue University to do this work.

Alvin T. Anderson has been appointed as an Extension Specialist at the University of Illinois to direct a survey of postwar employment possibilities in Illinois agriculture. Mr. Anderson was formerly vice-president of the Federal Land Bank of St. Louis.

Desmond L. W. Anker, formerly Assistant Professor of Agricultural Economics at the Oklahoma Agricultural and Mechanical College, resigned July 1 to accept a position in the Agricultural Rehabilitation Division of United Nations Relief and Rehabilitation Administration. Mr. Anker is now on overseas duty.

Dr. L. Jay Atkinson, Division of Farm Management and Costs of the Bureau of Agricultural Economics has shifted from work on input-output of hogs to the study of various phases of southern agriculture at Washington, D. C.

Frank D. Barlow, Jr., Associate Agricultural Economist, has resigned his position at North Carolina State College to accept a similar position at the University of Louisiana. His resignation was effective August 23, 1944.

Mr. Grant E. Blanch has joined the staff of the Agricultural Economics Department, South Dakota State College, as Assistant Economist to conduct research in livestock marketing. He is expected to obtain his Ph.D. degree in marketing at Cornell University about the first of October and report shortly thereafter. Mr. Blanch is a graduate of Utah State

College of Agriculture and obtained his Master's degree in Agricultural Economics from the University of Illinois.

Lester Blum has been appointed Research and Extension Associate at Iowa State College.

Dee A. Broadbent, Utah State Agricultural College, has been changed from teaching to part-time extension in agricultural economics while G. Alvin Carpenter is acting as State Labor Director.

O. H. Brownlee of Iowa State College obtained a leave during a portion of the summer and fall to accept an assignment with the National Planning Association.

Robert G. Cherry has been appointed Economist in Farm Taxation, Division of Farm and Ranch Economics, Texas Agricultural Experiment Station. He replaces H. C. Bradshaw who left to accept the position of Manager of the Public Affairs Division of the Illinois State Chamber of Commerce.

Dr. Fred A. Clarenbach has resigned as Associate Professor in the Department of Agricultural Economics at the University of Connecticut to return to the Division of Land Economics, Bureau of Agricultural Economics.

Hugh L. Cook, formerly Agricultural Economist, Marketing Facilities Branch, Office of Distribution, is joining the Division of Marketing and Transportation Research, Bureau of Agricultural Economics.

Elizabeth A. Curtiss, formerly of the Economics Department at Wellesley College has joined the Department of Economics and Sociology at Iowa State College as Associate Professor of Consumption Economics.

Dr. Allen D. Edwards has resigned his position as Associate Professor in the Department of Agricultural Economics and Rural Sociology at Clemson College to accept a new position as Head of the Department of Sociology, Winthrop College, Rock Hill, South Carolina. Dr. Edwards reported to Winthrop at the beginning of the fall semester.

W. T. Fullilove, agricultural economist, Experiment Station, Experiment, Georgia, and J. William Fanning, agricultural economist, Extension Service, Athens, Georgia, have been assigned duties with the agricultural panel of the Agricultural and Industrial Development Board of Georgia.

Major John W. Firor, Sr., is serving as Research Assistant to the industrial panel of the Agricultural and Industrial Development Board of Georgia. Major Firor has recently been transferred from the Army Air Forces to an inactive status. His leave of absence from the Department of Agricultural Economics of the University of Georgia, has been extended to July 1, 1945.

Earl O. Heady has been appointed to the position of Instructor and Research Associate in farm management at Iowa State College.

Dr. E. C. Johnson, who for several years was chief of the Economic and Credit Research Division of the central office of the Farm Credit Administration, transferred to the office of the Secretary of Agriculture on September 1. Dr. Johnson in his new position will be engaged in work on land policy with particular reference to the program of the Department of Agriculture for curbing farm land inflation.

Percy M. Lowe, Instructor in Agricultural Economics, University of Minnesota, has been granted a year's leave of absence to assist the United States army in the rehabilitation of blinded war veterans.

Carl C. Malone, Extension Associate Professor at Iowa State College, has been granted part time leave during the year to work with the Federal Extension Service.

John E. Mason, for the past two years with the Agricultural Adjustment Agency, has returned to the Bureau of Agricultural Economics as Regional Leader for the Appalachian Region, Division of Land Economics, with headquarters in Washington, D. C.

Dr. R. L. McNamara, formerly assistant in the Department of Rural Economics and Rural Sociology, Ohio State University, has resigned to enter the employ of the United States Public Health Service.

J. Lambert Molyneaux has been appointed Economist in Rural Life in the Division of Farm and Ranch Economics, Texas Agricultural Experiment Station, replacing Ensign Joe R. Motheral who is on leave in the United States navy.

Margaret Reid returned to Iowa State College at the beginning of the fall quarter, after spending the earlier part of the year on leave with the Statistical Standards Division, Bureau of the Budget, Executive Office of the President. She was a member of Dr. W. C. Mitchell's committee which prepared a report on the cost-of-living index of the Bureau of Labor Statistics.

Geoffrey Shepherd spent July and August in Washington on leave from Iowa State College, finishing up an appraisal of Federal agricultural price-control operations for the Bureau of Agricultural Economics, and preparing a report on agricultural price control after the war for the War Food Administration.

Oscar Steanson, for many years an Agricultural Economist in the Division of Farm Management and Costs, has resigned his position in the Treasury Department at Washington, D. C., to resume research work in agricultural economics in the Agricultural Experiment Station, Experiment, Georgia.

Dr. James M. Stepp, Associate Agricultural Economist, Clemson College, has been granted a year's leave of absence to devote full time to agricultural industrial relation activities in the Bureau of Agricultural Economics. Dr. Stepp will translate into action some of the things which he

has learned during the past three years when he directed a research project on rural industries under a grant from the General Education Board.

Harold R. Stucky, formerly District Conservationist, Soil Conservation Service, has been appointed Associate Professor of Agricultural Economics at Montana State College. Mr. Stucky will devote a major portion of his time to research work in range economics and conservation.

Gerhard Tintner has been on leave from Iowa State College since March, working with the Bureau of Agricultural Economics on the problem of determining the factors affecting the general price level. He expects to return at the end of the year.

Stanley W. Warren, professor of Farm Management at Cornell University, made a special study in August of teaching and research in farm management at Iowa State College as a visiting professor in the Department of Economics and Sociology.

Raymond S. Washburn, Agricultural Economist in the Office of Materials and Facilities, War Food Administration, has joined the staff of the Bureau of the Census and will work on Field Crops in the 1945 Census of Agriculture. For nearly 30 years Mr. Washburn was a member of the Division of Farm Management and Costs, Bureau of Agricultural Economics, Washington, D. C.

G. Burton Wood, formerly Senior Agricultural Economist, Bureau of Agricultural Economics, Dairy Products Division, accepted a position as Assistant Professor of Agricultural Economics at Purdue University September 1, 1944.

E. J. Working is on leave of absence doing research work in connection with the establishment of a farm mortgage department for the Mutual Life Insurance Company of New York.

Carle C. Zimmerman has returned to Harvard University after three years in the Army Air Forces.

INDEX TO VOLUME XXVI

1944

SUBJECTS

A philosophy of agricultural adjustment with particular reference to the Southeast, 448
A postwar program for American Agriculture, 549
Achieving maximum food and fiber production in the Mississippi Valley, problems of, 197
Addendum: From analysis to prediction, 766
Advertising, measure the effect of agricultural, 327
Agricultural adjustment with particular reference to the Southeast, a philosophy of, 448
Agricultural prices following World War II, 725
America looks to Russian agriculture, 46
American agriculture, a postwar program for, 549
Annual reports, 258

Business performance, cooperative relationships and, 292

Cartels, combinations and the public interest, 613
Changes in income distribution in agriculture with special reference to technological progress, 435
Changing emphases in agricultural price control programs, 476
Combinations, cartels and the public interest, 613
Contribution of price policy to the income and resource problems in agriculture, 631
Control, implications of land value, 240
Cooperative relationships and business performance, 292
Cotton and cottonseed, response to price in production of, 359
Cotton surplus disposal programs, 273

Demand for agricultural commodities in the period of transition from war to peace, 709
Desirable changes in the national economy after the war, 95
Desirable changes in the national economy for the postwar period, 101
Dr. Nourse on low-price policy: A Review, 754

Effect of agricultural advertising, measuring the, 327
Employment of farm labor, Fuller annual, 514
European agriculture, the prospects and their implications for the United States, 601

Family farm, the, 529
Farm capital, some economic effects of graduated income tax rates on investors in, 348
Farm credit, wartime developments in, and their postwar implications, 124
Farm labor, Fuller annual employment of, 514
Farm management research needs in New England, 503
Farm work simplification studies, 232
Farms, need for a new classification of, 694
Food needs by producing areas, measuring maximum contribution to, 181
Food processing and preserving, wartime developments in, 144
From analysis to prediction, addendum, 766
Fuller annual employment of farm labor, 514
Future trends in Germany's agricultural system, 309

German-occupied Europe, rehabilitation of agriculture in, 31
Germany's agricultural system, future trends in, 309
Graduated income tax rates on investors in farm capital, some economic effects of, 348

Honor roll, 434, 600, 826
How long does it take to pay for a farm starting with heavy debts? 685

Implications of land value control, 240
Income distribution in agriculture with special reference to technological progress, changes in, 435
Income and resource problems in agriculture, contribution of price policy to the, 631

Land area of Ohio, some factors affect-

ing the rate of retirement of farms in the submarginal, 737
Land, public works on private, 665
Land value control, implications of, 240

Maximum production, working with farmers to achieve, 214
Measuring the effect of agricultural advertising, 327
Measuring maximum contribution to food needs by producing areas, 181
Mississippi valley agriculture, world conditions in the postwar period that will affect, 1

National economy after the war, desirable changes in the, 95
National economy for the postwar period, desirable changes in the, 101
Nationalistic trends in agricultural policy, 59
Need for a new classification of farms, 694
New classification of farms, need for a, 694
New England, farm management research needs in, 503
News items, 430, 595, 827
Nutrition, redirecting world agricultural production and trade toward better, 10

Pay for a farm starting with heavy debts, how long does it take? 685
Policy, Dr. Nourse on low-price: A review, 754
Policy, nationalistic trends in agricultural, 59
Postwar implications, wartime developments in farm credit, and their, 124
Postwar land settlement and agricultural production, the problem of, 461
Postwar period, desirable changes in the National economy for the, 101
Postwar period, world conditions that will affect Mississippi valley agriculture in the, 1
Postwar program for American agriculture, a, 549
Price control program, changing emphases in agricultural, 476
Price control and the wartime pricing of farm products, 110
Price policy, contribution of, to the income and resource problems in agriculture, 631
Prices following World War II, agricultural, 725
Problems of achieving maximum food and fiber production in the Mississippi valley, 197
Production of cotton and cottonseed, response to price in, 359
Production in the Mississippi valley, problems of achieving maximum food and fiber, 197
Production, the problem of postwar land settlement and agricultural, 461
Production and trade, redirecting world agricultural, toward better nutrition 10
Production, working with farmers to achieve maximum, 214
Public works on private land, 665
Publications received, 406, 579, 825

Rate of retirement of farms in the submarginal land area of Ohio, some factors affecting the, 737
Readjustments in agriculture, transition, 77
Redirecting world agricultural production and trade toward better nutrition, 10
Rehabilitation of agriculture in German-occupied Europe, 31
Research needs in New England, farm management, 503
Response to price in production of cotton and cottonseed, 359
Russian agriculture, America looks at, 46

Simplification studies, farm work, 232
Some economic effects of graduated income tax rates on investors in farm capital, 348
Some factors affecting the rate of retirement of farms in the submarginal land area of Ohio, 737
Southeast, a philosophy of agricultural adjustment with particular reference to the, 448
Surplus disposal programs, cotton, 273

Technological progress, changes in income distribution in agriculture with special reference to, 435
The family farm, 529
The problem of postwar land settlement and agricultural production, 461
The prospects of European agriculture and their implications for the United States, 601
Transition readjustments in agriculture, 89
Transportation of farm products, wartime, 159

War to peace, demand for agricultural commodities in the period of transition from, 709
Wartime developments in farm credit and their postwar implications, 124
Wartime developments in food processing and preserving, 144
Wartime pricing of farm products, price control and the, 110
Wartime transportation of farm products, 159
Work simplification studies, farm, 232
Working with farmers to achieve maximum production, 214
World conditions in the postwar period that will affect Mississippi valley agriculture, 1
World War II, agricultural prices following, 725

AUTHORS

(Articles are indicated by asterisk*)

Abrahamsen, M. A.
*Cooperative relationships and business performance, 292
Allbaugh, Leland G.
*Working with farmers to achieve maximum production, 214
Allen, Edward D.
See Reviews, 808
Arner, G. B. L.
See Reviews, 591

Beers, Howard W.
See Reviews, 584, 586
Benedict, M. R., F. F. Elliott, H. R. Tolley and Conrad Taeuber
*Need for a new classification of farms, 694
Black, A. G.
*Wartime developments in farm credit and their postwar implications, 124
Black, John D.
See Notes, 572
Bonnen, C. A.
Discussion: Measuring maximum contribution to food needs by producing areas, 193
Discussion: Problems of achieving maximum food and fiber production in the Mississippi valley, 211
Boulding, K. E.
*Desirable changes in the national economy after the war, 95
Brandt, Karl
*The prospects of European agriculture and their implications for the United States, 601
Brannen, C. O.
See Reviews, 427

Canning, John B.
*Demand for agricultural commodities in the period of transition from war to peace, 709
*Wartime developments in food processing and preserving, 144
Case, H. C. M.
*Problems of achieving maximum food and fiber production in the Mississippi valley, 197
Cavin, J. P.
See Reviews, 423, 581
Chew, Arthur P.
*Nationalistic trends in agricultural policy, 59
Clarenbach, Fred A.
See Reviews, 816
Clark, Carl M.
See Reviews, 409

Doane, D. Howard
See Notes, 373
Dowell, A. A.
*Wartime transportation of farm products, 159
Dowell, A. A., and G. E. Tobin
*Some economic effects of graduated income tax rates on investors in farm capital, 348

Edwards, Everett E.
See Reviews, 418
Elliott, F. F.
*Redirecting world agricultural production and trade toward better nutrition, 10
Ellis, Lippert S.
Discussion: Implications of land value control, 254
Engberg, R. C.
Discussion: Implications of land value control, 247
Erdman, H. E.
See Notes, 388
Ezekiel, Mordecai
*Desirable changes in the national economy for the postwar period, 101

Forster, G. W.
See Notes, 775
Froker, R. K.
Discussion, Wartime developments in food processing and preserving, 156

Galbraith, J. K.
See Reviews, 414
Garver, F. B.
*Cartels, combinations and the public interest, 613
Grimes, W. E.
Discussion: Transition readjustments in agriculture, 89
See Reviews, 812

Haag, Herman M.
Discussion: Wartime transportation of farm products, 177
Hall, Arthur R.
See Reviews, 421
Hammar, C. H.
Discussion: Implications of land value control, 257
*A Postwar program for American agriculture, 549
Hardin, Charles M.
See Reviews, 411
Hardin, L. S.
See Notes, 779
Harper, F. A.
See Notes, 794
Harris, Seymour E.
See Reviews, 818
Harrison, Robert W.
*A philosophy of agricultural adjustment with particular reference to the Southeast, 448
Heady, Earl O.
*Changes in income distribution in agricultural with special reference to technological progress, 435
Hodges, J. A.
See Reviews, 814
Hoffman, A. C.
Discussion: Price control and the wartime pricing of farm products, 121
Howell, L. D.
*Cotton surplus disposal programs, 273
Hyson, Charles D.
See Notes, 396

Ise, John
See Reviews, 804

Jensen, Einar
*Rehabilitation of agriculture in German-occupied Europe, 31
Jesness, O. B.
Discussion: Wartime developments in food processing and preserving, 154
See Reviews, 580
Johnson, D. Gale
*Contribution of price policy to the income and resource problems in agriculture, 631
Johnson, O. R.
Discussion: Wartime developments in farm credit and their postwar implications, 138
*The family farm, 529
Johnson, V. Webster, and John F. Timmons
*Public works on private land, 665

Keepper, W. E.
See Reviews, 593
Keith, E. Gordon
See Reviews, 823
Kling, William
See Notes, 379

Lee, Alvin T. M.
*The problem of postwar land settlement and agricultural production, 461
Loftus, John A.
See Reviews, 415

MacFarlane, David L.
See Notes, 800
Mighell, R. L., and R. P. Christensen
*Measuring maximum contribution to food needs by producing areas, 181
Miller, L. F.
See Notes, 391
Montgomery, George
See Reviews, 811
Murray, William G.
*Implications of land value control, 240

Nelson, G. Lois
See Notes, 399
Nicholls, William H.
*Dr. Nourse on low-price policy: A review, 754
Nourse, Edwin G.
*Addendum: From analysis to prediction, 766

Pine, W. H.
See Notes, 563

Pond, George A.
Discussion: Measuring maximum contribution to food needs by producing areas, 195
Discussion: Working with farmers to achieve maximum production, 229
*How long does it take to pay for a farm starting with heavy debts? 685

Robinson, Nehemiah
*Future trends in Germany's agricultural system, 309

Saunderson, Mont H.
See Notes, 789
Saville, R. J.
Discussion: Problems of achieving maximum food and fiber production in the Mississippi valley, 209
Schultz, Theodore W.
*Transition readjustments in agriculture, 77
Shepherd, Geoffrey
*Changing emphases in agricultural price control programs, 476
Sitterley, J. H.
*Some factors affecting the rate of retirement of farms in the submarginal land area of Ohio, 737
Smith, Roy J.
*Fuller annual employment of farm labor, 514
Starch, E. A.
Discussion: Transition readjustments in agriculture, 92
Steele, Harry A.
Discussion: Implications of land value control, 249
Stokdyk, E. A.
See Reviews, 586

Taylor, Henry C.
*World conditions in the postwar period that will affect Mississippi valley agriculture, 1
Tintner, Gerhard, and O. H. Brownlee
See Notes, 566

Vaile, Roland S.
See Reviews, 589
Volin, Lazar
*America looks at Russian agriculture, 46

Waite, Warren C., and Rex W. Cox
See Notes, 382
Walsh, Robert M.
*Response to price in production of cotton and cottonseed, 359
Waters, S. M.
Discussion: Implications of land value control, 252
Waugh, Frederick V.
See Notes, 784
Wellman, H. R.
See Reviews, 820
Wells, Oris V.
*Agricultural prices following World War II, 725
See Reviews, 408
White, Bennett S., Jr.
See Reviews, 587
Wilcox, Walter W.
See Reviews, 805
Wolf, Alois F.
*Measuring the effect of agricultural advertising, 327
Woodworth, Harry C.
*Farm management research needs in New England, 503
See Reviews, 419
Working, E. J.
*Price control and the wartime pricing of farm products, 110

Young, E. C.
*Farm work simplification studies, 232

NOTES

A study of farm labor in two years of war, 563
Adequate diet, in defense of an, 379
Adjustments in Western beef cattle production and marketing during the war and postwar periods, 789

Beef cattle production and marketing during the war and postwar periods, adjustments in Western, 789

Ceiling over ceiling prices, 800
Computation and use of output units in farm business analysis, 779
Cost data for a group of individual firms, interpretations and variations in, 388
Cotton, the shift toward medium staple, 396

Exports and imports of foods, volume of U. S., 1909–1943, 399

Farm business analysis, computation and use of output units in, 779

Farm diversification, vertical, 373
Farm labor in two years of war, 563
Farm management data, some defects in the analysis of, 775
Farm program, food consumption programs as a part of a, 784
Farm records, production functions derived from, 566
Farmers' investments—a neglected field, 391
Food consumption programs as a part of a farm program, 784
Food stocks, the importance of storage costs in accumulating, 794
Foods, volume of U. S. exports and imports of, 1909–1943, 399

In defense of an adequate diet, 379
Interpretations of variations in cost data for a group of individual firms, 388

Prices on agricultural production, the influence of, 382
Production functions derived from farm records, 566

Some defects in the analysis of farm management data, 775

The importance of storage costs in accumulating food stocks, 794
The influence of prices on agricultural production, 382
The relation of wages to net farm income, 1929–42 and 1939–42, 572
The shift toward medium staple cotton, 396

Vertical farm diversification, 373
Volume of U. S. Exports and Imports of foods, 1909–1943, 399

War and postwar periods, adjustments in Western beef cattle production and marketing, during the, 789

BOOK REVIEWS

(Reviewer's name in parenthesis)

Beck, Victor Frank: *The field seed industry in the United States* (George Montgomery), 811
Benedict, Murray R.: *Farm people and the land after the war* (Howard W. Beers), 586
Bienstock, Gregory, Solomon M. Schwarz and Aaron Yugow: *Management in Russian industry and agriculture* (Walter M. Wilcox), 805
Black, John D.: *Food enough* (Oris V. Wells), 408
Brown, Ralph H.: *Mirror for Americans* (Arthur R. Hall), 421
Brownlee, O. W.: *Putting dairying on a war footing* (Roland S. Vaile), 589

Chase, Stuart: *Where's the money coming from, problems of postwar finance* (J. P. Cavin), 581
Condliffe, J. B.: *Agenda for a postwar world* (Charles M. Hardin), 411
Curbing inflation through taxation (symposium) (Fred A. Clarenbach), 816

Davis, Edwin Adams: *Plantation life in the Florida parishes of Louisiana, 1836–1846, as reflected in the diary of Bennet H. Barrow* (Everett E. Edwards), 418

Fine, Sherwood M.: *Public spending and postwar economic policy* (W. E. Grimes), 812

Gallahue, Edward Eugene: *Some factors in the development of market standards with special reference to food, drugs, and certain other household wares* (Carl M. Clark), 409
Groves, Harold M.: *Production, jobs and taxes* (Edward D. Allen), 808

Intergovernmental commodity control agreements (Bennett S. White, Jr.), 587

Jacoby, Neil H., and Raymond J. Saulnier: *Financing inventory and field warehouse receipts* (E. A. Stokdyk), 586

Landis, Paul H.: *Population problems, a cultural interpretation* (Howard W. Beers), 584
Lerner, Abba P.: *The economics of control: Principles of welfare economics* (John Ise), 804

Machlup, Fritz: *International trade and the national income multiplier* (J. P. Cavin), 423

Malin, James C.: *Winter wheat in the golden belt of Kansas* (J. A. Hodges), 814

Mills, Frederick C.: *Price in a war economy, some aspects of the present price structure in the United States* (J. P. Cavin), 581

Nicholls, William H., and John A. Vieg: *Wartime government in operation* (J. K. Galbraith), 414

Olson, P. R., and C. A. Hickman: *Pan American economics* (Seymour E. Harris), 818

Pearson, Frank A., and Don Paarlberg: *Food* (O. B. Jesness), 580

Schlichter, Sumner H.: *Present savings and postwar markets* (J. P. Cavin), 581

Shoup, Carl, Milton Friedman and Ruth P. Mack: *Taxation to prevent inflation* (Gordon Keith), 823

Studies in income and wealth, Vol. VI, (H. R. Wellman), 820

Van Sickle, John V.: *Planning for the South* (C. O. Brannen), 427

Waring, P. Alston, and Walter M. Teller: *Roots in the earth* (W. E. Keepper), 593

Wickizer, V. D.: *Tea under international regulation* (G. B. L. Arner), 591

Wickizer, V. D.: *The world coffee economy with special reference to control schemes* (John A. Loftus), 415

Wilcox, Walter L., Sherman E. Johnson and Stanley W. Warren: *Farm management research 1940–1941* (Harry C. Woodworth), 419

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Contents

Volume XXXIV December, 1944

Taxation Policies
Treasury Tax Policies in 1943 ..... E. D. Allen
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